



Baseline Biological Resources  
Report for the Chula Vista  
Central City Preserve  
Baseline Biological Survey,  
City of Chula Vista

Prepared for

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## **1.0 EXECUTIVE SUMMARY**

The following baseline biological information was obtained through the California Natural Community Conservation Plan (NCCP) grant funded special study. This data was gathered in order to provide baseline biological information to allow for the preparation of Area Specific Management Directives (ASMD) plans that are intended to provide guidelines for the protection, maintenance, and management of preserved natural open space on four Preserve Management Areas (PMAs) of the City of Chula Vista's Central City Preserve. The Central City Preserve was created in response to the City of Chula Vista Multiple Species Conservation Program (MSCP) Subarea Plan as a means to protect sensitive biological resources within the jurisdiction. Each PMA consists of a number of subunits that are disjunct areas of open space set aside as part of mitigation requirements for the surrounding primarily residential development. The natural open space of the PMAs support sensitive and depleted plant communities and species unique to the region. MSCP covered flora and fauna species and sensitive habitats are the primary resources identified for protection in the PMAs. The PMAs also act to protect the quality of life for residents of Chula Vista.

The MSCP is a comprehensive, long-term habitat conservation plan that addresses the needs of multiple species and the preservation of natural vegetation communities of San Diego County (City of Chula Vista 2003). The County of San Diego MSCP is a subregional plan under the California Natural Community Conservation Planning Act of 1991 and was prepared for the subregion, an area encompassing 12 jurisdictions and 582,243 acres. This plan provides a framework for preserving and protecting natural resources and federal and state endangered, threatened, or sensitive species. It addresses the potential impacts of urban growth, loss of natural habitat and species endangerment, and creates a plan to mitigate for the potential loss of covered species and their habitats due to direct, indirect, and cumulative impacts of future development of both public and private lands within the MSCP area. The County of San Diego MSCP Subregional Plan is implemented through local Subarea Plans. These Subarea Plans are prepared in coordination with federal and state resource agencies and result in the issuance of permits that allow for a certain level of impact to state and federally listed species.

The City of Chula Vista has prepared and adopted an MSCP Subarea Plan to guide implementation of the MSCP within its corporate boundaries (City of Chula Vista 2003). The MSCP Subarea Plan is a plan and a process for the local issuance of permits under the federal and state Endangered Species Acts for impacts to threatened and endangered species. Also included in the MSCP Subarea Plan are implementation strategies, preserve design, and management guidelines.

The MSCP Subarea Plan designates a natural habitat preserve system and provides a regulatory framework for determining impacts and designating mitigation associated with



proposed projects. The MSCP Subarea Plan identifies a series of focused planning areas within which some lands will be dedicated for preservation of native habitats.

Eighty-six sensitive plant and wildlife species are MSCP Subarea Plan covered species. These species are considered to be adequately protected within the MSCP Subarea Plan Preserve lands.

There are eight plants that are considered to be “narrow endemic species” based on their limited distributions in the region and their potential to occur in Chula Vista. Four of these species are present in the Central City Preserve Area: Otay tarplant (*Deinandra conjugens*), San Diego thornmint (*Acanthomintha ilicifolia*), variegated dudleya (*Dudleya variegata*), and snake cholla (*Cylindropuntia californica* var. *californica*). These narrow endemics are sensitive biological resources and some are state or federally listed as threatened or endangered species.

As described in Section 7.3.1 of the Subarea Plan, the baseline biological studies were conducted to better define the locations and biological values of resources found in the Central City PMAs. The primary goal of these studies was to identify specific biological resources appropriate for management focus and to define functional biological management units for the PMA. As described in Section 7.3.1 of the Subarea Plan (City of Chula Vista 2003), this baseline survey was anticipated to pay particular attention to potential locations of narrow endemic species and specifically Otay tarplant.

RECON biologists conducted general plant surveys in 2002 and 2003 and all plant species apparent at the time of the surveys were recorded for each subunit. Any additional plants identified during the sensitive plants focused surveys were also recorded and the species lists revised accordingly. RECON biologists also conducted sensitive plant surveys. All sensitive plants observed during the general and focused rare plant surveys were mapped on an aerial photograph flown in January 2001.

General wildlife surveys were conducted by walking extensively throughout each PMA subunit. All wildlife observed or detected directly or by sign was recorded. Direct observations of predators or their sign were also mapped on an aerial photograph.

RECON biologists conducted seasonal bird surveys in all PMAs during the summer and fall of 2002 and the winter of 2002/2003. Birds were identified visually or by their vocalizations. All sensitive bird species locations were mapped. Focused surveys were conducted in the spring of 2003 for three listed bird species: coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*). All other incidental birds identified during these surveys were also recorded.

Any roadkill on (or near) roads and highways adjacent to or within each PMA subunit was recorded. A carcass would be considered roadkill if death was clearly caused by

motorized vehicular traffic. Any signs of illegal trash dumping or trespassing, including bicycle paths and vagrant encampments, were also noted and mapped.

RECON biologists also noted and mapped major drainages and channels, culverts used for both roadway drainage and for channel crossings, and desiltation basins.

### **1.1 PMA 1**

There are nine vegetation communities and land cover types present in PMA 1: maritime succulent scrub, Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, southern willow scrub, native grassland, freshwater marsh, non-native grassland, eucalyptus woodland, and disturbed.

Eleven listed, sensitive, and rare plant species are present in PMA 1. Four species, Otay tarplant, San Diego thornmint, snake cholla, and variegated dudleya, are covered species under the MSCP designated as narrow endemics. San Diego barrel cactus is an MSCP covered species. Seven additional species are considered sensitive by the California Native Plant Society (CNPS): south coast saltbush, long-spined spineflower, San Diego sand aster, Palmer sagewort, San Diego bur-sage, Palmer's grappling hook, small-flowered morning glory, and San Diego County viguiera.

Two MSCP covered species were observed in PMA 1: Belding's orange-throated whiptail and San Diego horned lizard. One additional sensitive species, red diamond rattlesnake, was also observed within PMA 1.

Five MSCP covered bird species were detected on PMA 1: coastal California gnatcatcher, Cooper's hawk, coastal cactus wren, Swainson's hawk, and southern California rufous-crowned sparrow. A willow flycatcher of undetermined subspecies was observed in the southern willow scrub habitat along Rice Canyon. Willow flycatchers are state listed endangered species. This individual was likely using the area as a migration stop-over and did not breed locally. Three additional sensitive species were observed within PMA 1 subunits: sharp-shinned hawk, yellow warbler, and Vaux's swift.

One MSCP covered mammal species, southern mule deer (*Odocoileus hemionus fuliginata*), was detected in PMA 1.

### **1.2 PMA 2**

There are seven vegetation communities and land cover types present in PMA 2: maritime succulent scrub, Diegan coastal sage scrub, mule fat scrub, freshwater marsh, southern willow scrub, disturbed, and developed.

Eleven listed, sensitive, and rare plant species are present in PMA 2. Two species, Otay tarplant and snake cholla, are covered species under the MSCP designated as narrow endemics. San Diego barrel cactus is an MSCP covered species. Eight additional

species are considered sensitive by CNPS: south coast saltbush, long-spined spineflower, San Diego sand aster, golden-spined cereus, Palmer sagewort, cliff spurge, Palmer's grappling hook, and San Diego County viguiera.

Two MSCP covered reptile species were observed in PMA 2: Belding's orange-throated whiptail and San Diego horned lizard.

Six MSCP covered bird species were detected on PMA 2: coastal California gnatcatcher, Cooper's hawk, coastal cactus wren, golden eagle, southern California rufous-crowned sparrow, and northern harrier. Four additional sensitive species were observed within PMA 2 subunits: sharp-shinned hawk, white-tailed kite, yellow-breasted chat, and yellow warbler.

One MSCP covered mammal species, southern mule deer (*Odocoileus hemionus fuliginata*), was detected in PMA 2.

### **1.3 PMA 3**

There are eight vegetation communities present on PMA 3: Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, maritime succulent scrub, southern willow scrub, native grassland, non-native grassland, eucalyptus, and disturbed.

Ten listed, sensitive, and rare plant species are present in PMA 3. Two species, Otay tarplant and snake cholla, are covered species under the MSCP designated as narrow endemics. Two others are also MSCP covered species: San Diego barrel cactus and Orcutt's bird-beak. Six additional species are considered sensitive by CNPS: San Diego sand aster, golden-spined cereus, San Diego marsh elder, small-flowered morning glory, spiny rush, and San Diego County viguiera.

One MSCP covered reptile species was observed in PMA 2: Belding's orange-throated whiptail.

Two MSCP covered bird species were detected on PMA 3: coastal California gnatcatcher and southern California rufous-crowned sparrow. One additional sensitive species: yellow warbler, was also observed within PMA 3 subunits.

### **1.4 PMA 4**

There are 10 vegetation communities present in PMA 4: Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, maritime succulent scrub, disturbed maritime succulent scrub, mule fat scrub, southern willow scrub, non-native grassland, freshwater marsh, tamarisk scrub, and disturbed.

Thirteen listed, sensitive, and rare plant species are present in PMA 4. Four species, Otay tarplant, San Diego thornmint, snake cholla, and variegated dudleya, are covered

species under the MSCP and designated as narrow endemics. Two others are also MSCP covered species: San Diego barrel cactus and Orcutt's bird-beak. Seven additional species are considered sensitive by CNPS: San Diego sand aster, Palmer's grappling hook, California adolphia, Munz's sage, small-flowered morning glory, San Diego County viguiera, and graceful tarplant.

Two MSCP covered reptile species were observed in PMA 4: Belding's orange-throated whiptail and San Diego horned lizard. One additional sensitive species, red diamond rattlesnake, was also observed within PMA 4.

Eight MSCP covered bird species were detected on PMA 4: least Bell's vireo, coastal California gnatcatcher, American peregrine falcon, Swainson's hawk, Cooper's hawk, coastal cactus wren, southern California rufous-crowned sparrow, and northern harrier. Four additional sensitive species were observed within PMA 4 subunits: white-tailed kite, yellow warbler, yellow-breasted chat, and double-crested cormorant.

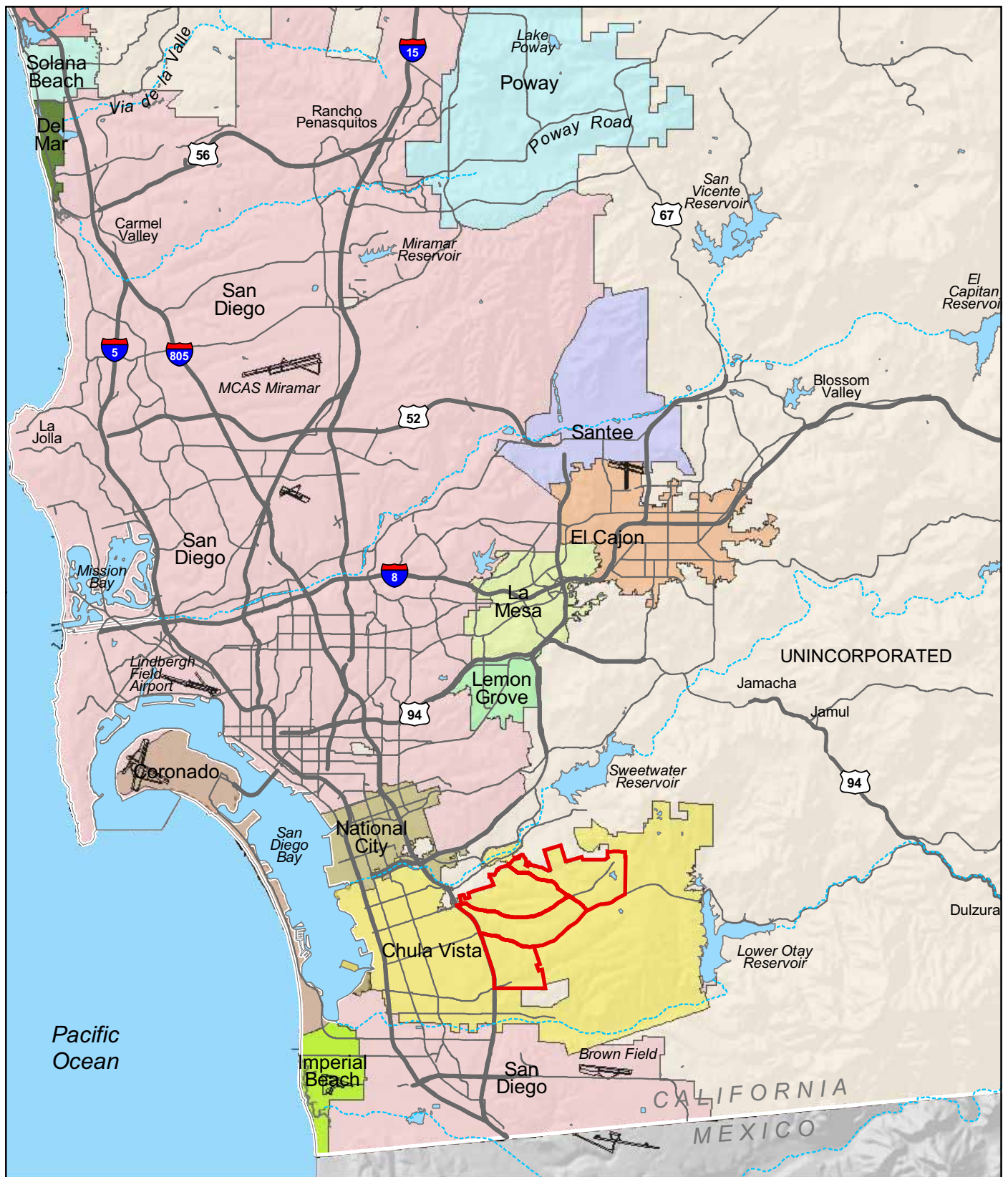
One MSCP covered mammal species, southern mule deer, was detected in PMA 4.

## **2.0 INTRODUCTION**

This draft baseline biological resources report has been prepared for the City of Chula Vista to be used in support of the preparation of four distinct Area Specific Management Directives (ASMDs) for the 1,350-acre Central City Preserve Management Area within the city of Chula Vista.

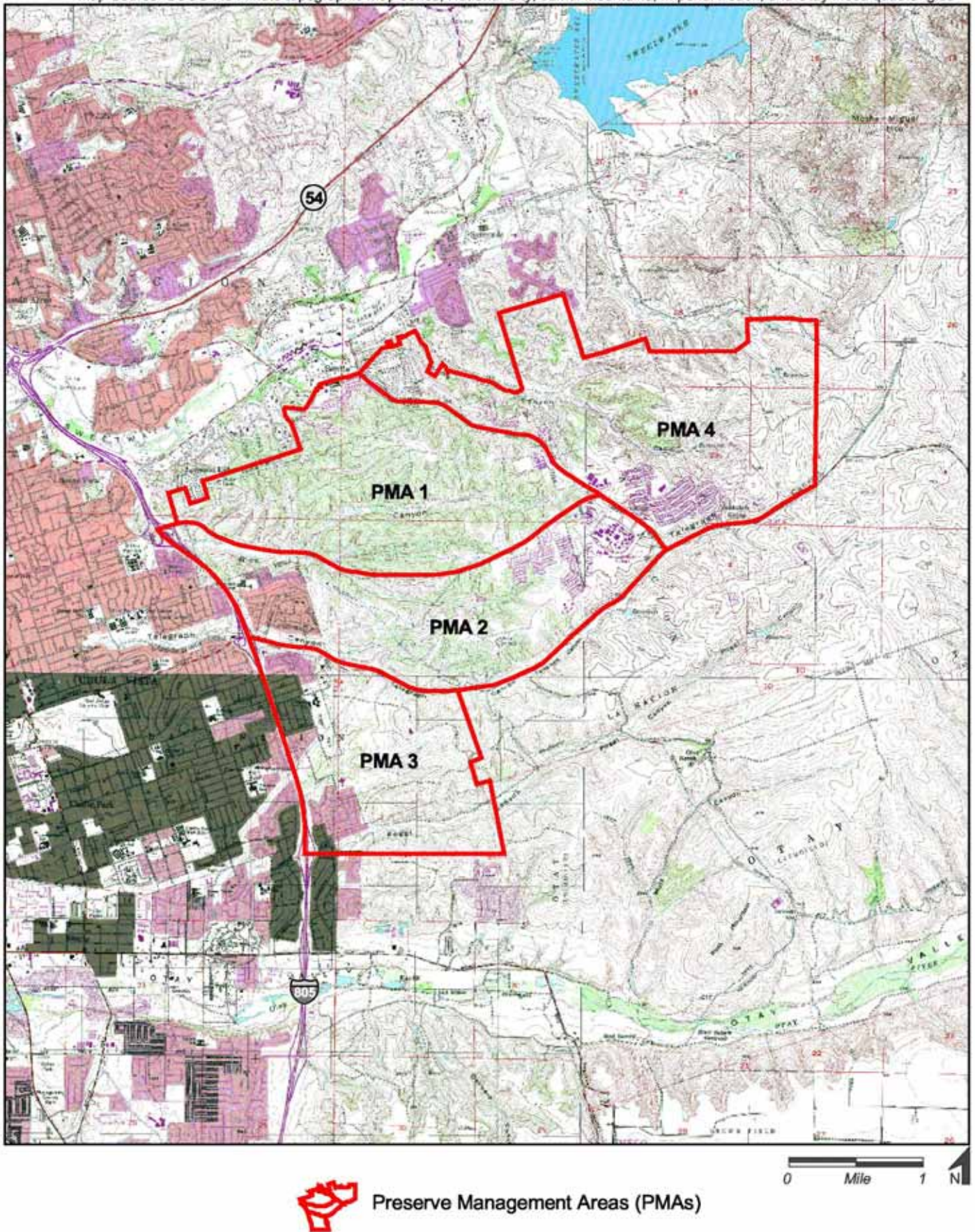
The city of Chula Vista is located in southwestern San Diego County, which is in southern California near the U.S.-Mexico border. The Central City Preserve Management Area (preserve area) is in the central portion of the city of Chula Vista (Figure 1) east of Interstate 805 (I-805), south of State Route 54 (SR-54) and Bonita Road, and north of Otay Lakes Road (Figure 2). The Central City Preserve Management Area covers approximately 1,350 acres and is subdivided into four Preserve Management Areas for data management purposes and for the development of the ASMDs. PMA 1, PMA 2, PMA 3, and PMA 4 are shown in Figure 3. Each PMA consists of a number of subunits that are isolated open space areas surrounded by residential development. Each of these subunits has been assigned a number to organize and distinguish each distinct survey area (Figures 4-11, which are located at the end of each PMA section).

Current land uses in the Central City Preserve area include residential and commercial development. In association with the development of the area, areas were set aside for brush management activities and as permanent open space. The areas set aside as the City's PMA open space are natural canyon areas that are used mainly for recreation activities such as hiking and biking.

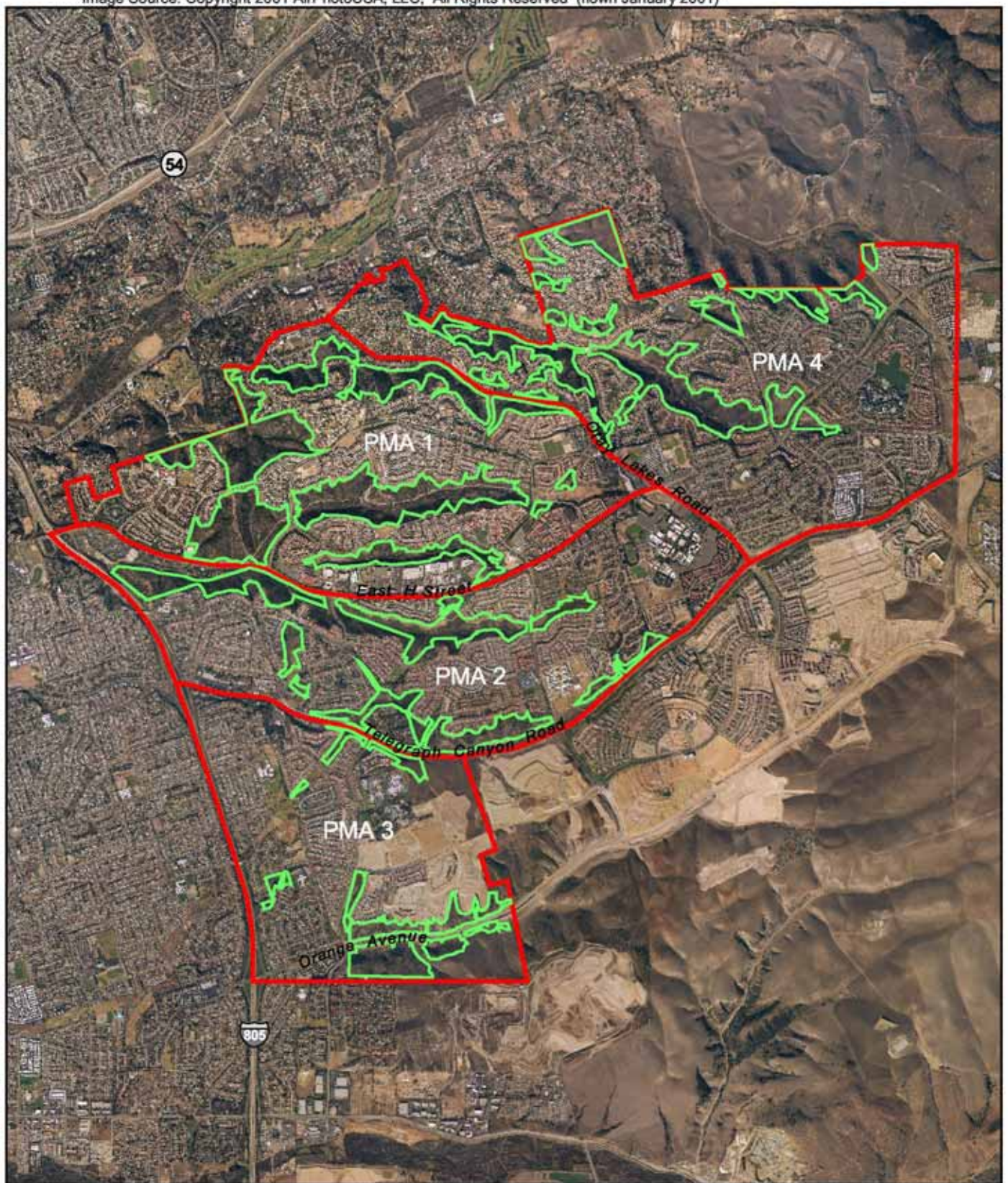


Preserve Management Areas (PMA's)









Preserve Management Areas (PMAs)



PMA subunits



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M:\jobs\23593\blolgis\pma\_figs.apr\fig3 (aerial) 06/02/08

**FIGURE 3**  
Aerial Photograph of Project

Four main canyons are present in the PMAs: Rice Canyon (PMA 1), Telegraph Canyon (PMA 2), Poggi Canyon (PMA 3), and Long Canyon (PMA 4). Rice, Telegraph, and Long Canyons and their associated drainages are part of the Sweetwater River watershed. Poggi Canyon and its associated drainage, in PMA 3, is part of the Otay River watershed. The drainages convey water to the river of their respective watershed from the San Miguel Mountain area, which is part of the southern Peninsular Range, and urban runoff.

Environmental documents prepared for the construction of residential developments around the canyons in the preserve area were reviewed in an effort to compile all available historical data on the flora and fauna present in this open space. Data was compiled from various resources, including surveys that were conducted by RECON in 2002 and 2003, biological technical reports, environmental impact reports, and revegetation plans. The City of Chula Vista is responsible for the management of this open space, which is included as preserve land in the City of Chula Vista Multiple Species Conservation Program.

RECON biologists conducted surveys in 2002 and 2003 to locate and map the following biological resources: sensitive plant and animal species (including narrow endemics), vegetation communities, exotic plants, predator sign, and wildlife crossings. In addition, RECON biologists surveyed for and mapped the following: vagrant encampments, illegal dumping sites, observed and potential roadkill areas, potentially clogged culverts, desiltation basins, and channels. This baseline biological resources report describes the methods and results of these surveys. Attachment 1 provides a list of the personnel that contributed to this effort and their qualifications.

### **3.0 SURVEY METHODS**

#### **3.1 Literature Review**

RECON biologists conducted a review of existing literature relevant to the biological resources with the potential to occur in the Central City Preserve Management Areas.

Literature reviewed included, but was not limited to, the documents listed in Attachment 2.

#### **3.2 Botanical Resources**

Table 1 provides the dates and times all botanical surveys were conducted, the personnel involved, and the weather conditions under which the surveys were conducted.



**TABLE 1**  
**SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY**

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
09/27/02	All	W. Loeffler J. MacAller C. Kim J. Seed B. Primrose	Vegetation mapping General survey	7:30 A.M.; 61° F; 0-2 mph	3:30 P.M.; 73° F; 0-2mph
10/2/02	N/A	W. Loeffler C. Kim D. Busby B. Woodward	Wildlife survey Fall bird survey	8:15 A.M.; 53° F; 0-2 mph; 95% cloud cover	12:00 P.M.; 60° F; 0-2 mph; 95% cloud cover
10/3/02	N/A	C. Jones J. MacAller J. Seed B. Woodward	Wildlife survey Fall bird survey	8:00 A.M.; 50° F; 0-3 mph	12:30 P.M.; 75° F; 0-3 mph
10/4/02	N/A	C. Jones J. MacAller C. Kim J. Seed D. Busby B. Woodward	Wildlife survey Fall bird survey	7 A.M.; 46° F; 0-2 mph; light haze	12:15 P.M.; 79° F; 1-7 mph; 0% cloud cover
10/7/02	N/A	C. Jones J. MacAller J. Seed B. Woodward	Wildlife survey	8:00A.M.; 56° F; 0-2 mph	12:45 P.M.; 86° F; 0-2 mph
10/8/02	N/A	C. Jones J. MacAller J. Seed B. Woodward	Wildlife survey Fall bird survey	7:15 A.M.; 54° F; 0-2 mph; light haze	11:45 A.M.; 84° F; 0-5 mph; 0% cloud cover
10/9/02	N/A	B. Primrose	Plant survey	N/A	N/A
10/10/02	N/A	C. Kim D. Busby	Wildlife survey Fall bird survey	7:00 A.M.; 55° F; 0-2 mph; 0% cloud cover	12:00 P.M.; 73° F; 0-2 mph; 0% cloud cover

**TABLE 1**  
**SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY**  
**(continued)**

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
10/11/02	N/A	W. Loeffler B. Woodward	Wildlife survey Fall bird survey	7:15; 59° F; 1-3 mph; 5% cloud cover	N/A
10/15/02	N/A	W. Loeffler B. Woodward	Wildlife survey Fall bird survey	7:10; 59° F; 1-3 mph; 100% cloud cover	11:30 A.M.; 70° F; 1-3 mph; 40% cloud cover
10/15/02	N/A	B. Primrose	Plant survey	N/A	N/A
10/16/02	N/A	B. Primrose	Plant survey	N/A	N/A
10/17/02	N/A	B. Primrose	Plant survey	N/A	N/A
10/21/02	N/A	B. Primrose A. Hamel	Plant survey	N/A	N/A
10/24/02	N/A	B. Primrose A. Hamel	Plant survey	N/A	N/A
10/25/02	N/A	B. Primrose A. Hamel	Plant survey	N/A	N/A
10/29/02	N/A	B. Primrose	Plant survey Culvert mapping	N/A	N/A
10/31/02	N/A	B. Primrose	Plant survey Culvert mapping	N/A	N/A
11/7/02	N/A	B. Primrose	Culvert mapping	N/A	N/A
11/13/02	N/A	B. Primrose D. Busby	Culvert mapping	N/A	N/A
10/15/02	N/A	W. Loeffler B. Woodward	Wildlife survey Fall bird survey	7:10; 59° F; 1-3 mph; 100% cloud cover	11:30 A.M.; 70° F; 1-3 mph; 40% cloud cover

**TABLE 1**  
**SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY**  
**(continued)**

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
12/31/02	N/A	B. Woodward	Wildlife survey Winter bird survey	N/A	N/A
1/6/03	N/A	D. Busby B. Woodward	Wildlife survey Winter bird survey	7:00 A.M.; 53° F; 0-2 mph; 0% cloud cover	11:30 A.M.; 74° F; 3-6 mph; 0% cloud cover
1/7/03	N/A	D. Busby	Wildlife survey Winter bird survey	7:30 A.M.; 64° F; 10-25 mph; 30% cloud cover	1:00 P.M.; 82° F; 10-25 mph; 50% cloud cover
1/8/03	N/A	D. Busby B. Woodward	Wildlife survey Winter bird survey	7:15 A.M.; 56° F; 0-2 mph; 50% cloud cover	12:00 P.M.; 78° F; 0-2 mph; 50% cloud cover
1/9/03	N/A	D. Busby	Wildlife survey Winter bird survey	7:30 A.M.; 57° F; 0 mph; 10% cloud cover	10:00 A.M.; 75° F; 0 mph; 0% cloud cover
1/10/03	N/A	D. Busby B. Woodward C. Kim	Wildlife survey Winter bird survey	7:00 A.M.; 55° F; 0 mph; 25% cloud cover	11:30 A.M.; 74° F; 0 mph; 25% cloud cover
1/13/03	N/A	D. Busby	Wildlife survey Winter bird survey	7:30 A.M.; 48° F; 0 mph; 0% cloud cover	11:30 A.M.; 65° F; 0-2 mph; 0% cloud cover
1/14/03	N/A	C. Kim	Wildlife survey Winter bird survey	6:30 A.M.; 46° F; 0 mph; A.M. fog	11:00 A.M.; 64° F; 0 mph; 40% cloud cover

**TABLE 1**  
**SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY**  
**(continued)**

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
2/19/03	N/A	B. Primrose M. Dodero A. Hamel	Rare plant survey	8:30 A.M.	4:00 P.M.
3/7/03	N/A	M. Dodero B. Primrose	Rare plant survey	8:30 A.M.	4:30 P.M.
3/11/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
3/12/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
3/14/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
3/19/03	N/A	B. Primrose M. Dodero A. Hamel	Rare plant survey	8:30 A.M.	4:00 P.M.
3/21/03	N/A	B. Primrose M. Dodero A. Hamel	Rare plant survey	8:30 A.M.	4:00 P.M.
3/25/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
3/27/03	N/A	B. Primrose M. Dodero A. Hamel	Rare plant survey	8:30 A.M.	4:00 P.M.
3/31/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
4/3/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
4/4/03	N/A	B. Primrose M. Dodero A. Hamel	Rare plant survey	8:30 A.M.	4:00 P.M.
4/8/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.

**TABLE 1**  
**SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY**  
**(continued)**

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
4/9/03	N/A	B. Primrose A. Hamel	Rare plant survey	8:30 A.M.	4:00 P.M.
4/11/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
4/12/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
4/16/03	N/A	B. Primrose D. Busby	Rare plant survey	8:30 A.M.	4:00 P.M.
4/22/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
4/25/03	N/A	B. Primrose M. Doderio	Rare plant survey	8:30 A.M.	4:00 P.M.
4/28/03	1-1b 1-1c	A. Clark	CAGN 1	6:00 A.M.; 56° F; winds 0-3 mph; 100% cloud cover	10:00 A.M.; 64° F; winds 3-7 mph; 40% cloud cover
4/28/03	2-1a	J. MacAller	CAGN 1	10:45 A.M.; 63° F; winds 1-5 mph; 10% cloud cover	12:15 P.M.; 70° F; winds 1-5 mph; 10% cloud cover
4/28/03	3-1a, b 3-2b, c 3-3a, b	C. Kim	CAGN 1	6:00 A.M.; 56° F; winds 1-3 mph; 90% cloud cover	11:30 A.M.; 71° F; winds 2-6 mph; 5% cloud cover
4/28/03	4-2b	J. MacAller B. Woodward	CAGN 1	7:45 A.M.; 60° F; winds 0-2 mph; 90% cloud cover	10:30 A.M.; 63° F; winds 3-5 mph; 10% cloud cover
4/29/03	1-1d 1-2a	A. Clark D. Saucedo- Ortiz	CAGN 1	7:00 A.M.; 53° F; winds 0-3 mph; 10% cloud cover	12:00 P.M.; 72° F; winds 5-8 mph; 10% cloud cover
4/30/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
4/30/03	3-2b 3-3a, b, c 4-3b	D. Busby	LBV 1	7:00 A.M.; 55° F; winds 2-5 mph; 10% cloud cover	N/A

**TABLE 1**  
**SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY**  
**(continued)**

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
5/1/03	2-1b 2-1c 2-2aN	C. Jones	CAGN 1	6:15 A.M.; 54° F; winds 0-2 mph; 100% cloud cover	12:15 A.M.; 76° F; winds 3-5 mph; 50% thin cloud cover
5/2/03	N/A	B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.
5/4/03	1-2a, b 2-1b, c 2-2b, c	D. Busby	LBV 2	6:15 A.M.; 55° F; winds 0-2 mph; 50% cloud cover	11:00 A.M.; 65° F; winds 2-5 mph; 75% cloud cover
5/5/03	1-2b 1-2e 1-2d	J. MacAller	CAGN 2	7:30 A.M.; 58° F; winds 0-3 mph; 95% cloud cover	10:40 A.M.; 63° F; winds 0-3 mph; 80% cloud cover
5/5/03	3-1a, b 3-2b, c 3-3a, b	C. Kim	CAGN 2	6:00 A.M.; 56° F; winds 0-2 mph; 100% cloud cover	11:30 P.M.; 65° F; winds 3-6 mph; 100% cloud cover
5/6/03	1-1c 1-1a	A. Clark D. Saucedo-Ortiz	CAGN 2	6:30 A.M.; 61° F; winds 0-2 mph; 100% cloud cover	11:15 A.M.; 58° F; winds 4-8 mph; 100% cloud cover
5/6/03	2-2b 2-2c 2-2dW 2-2dE	C. Kim	CAGN 2	6:00 A.M.; 56° F; winds 3-6 mph; 100% cloud cover	11:30 P.M.; 72° F; winds 3-6 mph; 80% cloud cover
5/7/03	1-1d 1-2a	A. Clark	CAGN 2	6:30 A.M.; 57° F; winds 0-2 mph; 50% cloud cover	11:15 A.M.; 61° F; winds 3-5 mph; 95% cloud cover
5/7/03	4-1dS 4-2a, b, c, d	D. Busby	LBV 2	6:15 A.M.; 55° F; winds 0-1 mph; 90% cloud cover	10:15 A.M.; 62° F; winds 3-9 mph; 25% cloud cover
5/8/03	1-2c	J. MacAller	CAGN 2	8:30 A.M.; 54° F; winds 1-5 mph; 100% cloud cover	10:15 A.M.; 58° F; winds 1-5 mph; 95% cloud cover
5/8/03	2-2aS	J. MacAller	CAGN 1	7:45 A.M.; 54° F; winds 0-5 mph; 100% cloud cover	8:05 A.M.; 54° F; winds 0-5 mph; 100% cloud cover
5/9/03	N/A	B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.

**TABLE 1**  
**SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY**  
**(continued)**

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
5/10/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	2:00 P.M.
5/12/03	2-2b 2-2c 2-2dW 2-2dE	C. Kim	CAGN 3	6:00 A.M.; 60° F; winds 0-2 mph; 10% cloud cover	11:00 A.M.; 73° F; winds 3-5 mph; 35% cloud cover
5/12/03	3-2b 3-3a, b, c	D. Busby	LBV 2	7:45 A.M.; 62° F; winds 0-2 mph; 25% cloud cover	10:15 A.M.; 70° F; winds 0-2 mph; 50% cloud cover
5/14/03	N/A	B. Primrose M. Doderio H. Price	Rare plant survey	8:30 A.M.	12:00 P.M.
5/14/03	2-1a	J. MacAller	CAGN 2	10:15 A.M.; 58° F; winds 1-3 mph; 100% cloud cover	11:45 A.M.; 61° F; winds 1-3 mph; 100% cloud cover
5/14/03	4-2b	J. MacAller	CAGN 2	7:30 A.M.; 59° F; winds 1-3 mph; 100% cloud cover with fog	10:00 A.M.; 57° F; winds 1-5 mph; 100% cloud cover with fog and light mist
5/15/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	2:00 P.M.
5/15/03	1-1c 1-1a	A. Clark D. Busby	CAGN 3	7:15 A.M.; 58° F; winds 0-2 mph; clear sky	11:30 A.M.; 70° F; winds 3-5 mph; clear sky
5/16/03		B. Primrose M. Doderio	Rare plant survey	8:30 A.M.	4:00 P.M.
5/16/03	1-2e 1-2d	J. MacAller	CAGN 3	9:10 A.M.; 65° F; winds 0-2 mph; clear sky	10:00 A.M.; 67° F; winds 0-2 mph; clear sky
5/16/03	1-1d 1-2a	A. Clark	CAGN 3	7:00 A.M.; 59° F; winds 0-2 mph; 50% hazy cloud cover	12:00 P.M.; 71° F; winds 3-8 mph; 30% hazy cloud cover
5/16/03	2-1a	J. MacAller	CAGN 2	7:00 A.M.; 58° F; winds 1-3 mph; 10% haze	9:00 A.M.; 64° F; winds 1-3 mph; clear sky
5/16/03	2-2aN 2-1c	C. Jones	CAGN 2	8:00 A.M.; 64° F; winds 0-3 mph; clear sky	10:15 A.M.; 67° F; winds 0-3 mph; clear sky
5/19/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	12:00 P.M.

**TABLE 1**  
**SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY**  
**(continued)**

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
5/20/03	1-2b	J. MacAller	CAGN 3	7:15 A.M.; 60° F; winds 0-5 mph; 100% hazy cloud cover	10:00 A.M.; 69° F; winds 0-5 mph; 40% cloud cover
5/20/03	2-2aS	J. MacAller	CAGN 2	10:20 A.M.; 69° F; winds 1-3 mph; 300% cloud cover	10:45 A.M.; 69° F; winds 1-3 mph; 30% cloud cover
5/20/03	2-2b 2-2c 2-2dW 2-2dE	C. Kim	CAGN 3	6:30 A.M.; 64° F; winds 0-2 mph; 100% cloud cover with A.M. fog	11:30 A.M.; 77° F; winds 1-3 mph; 40% cloud cover with high haze
5/22/03	1-2a, b 4-1dS 4-2a, b, c	C. Jones	LBV 3 WIFL 1	6:15 A.M.; 62° F; winds 0-3 mph; 100% cloud cover	10:30 A.M.; 74° F; winds 0-3 mph; clear sky
5/22/03	3-3a, b, c 2-1b, c 2-2c 3-2b 4-2d	D. Busby	LBV 3	5:45 A.M.; 62° F; winds 0-2 mph; 100% cloud cover	10:45 A.M.; 66° F; winds 0-2 mph; clear sky
5/23/03	1-2c	J. MacAller	CAGN 3	9:15 A.M.; 65° F; winds 0-5 mph; 10 % cloud cover	11:00 A.M.; 70° F; winds 1-5 mph; 80% cloud cover
5/27/03	4-1dS 4-1e, f, h 4-2b, c 4-1cW 4-3c, d	A. Clark D. Busby	CAGN 2	7:30 A.M.; 64° F; winds 0-1 mph; 40% cloud cover with light haze	12:00 P.M.; 78° F; winds 1-2 mph; light haze
5/27/03	2-2b	D. Busby	LBV 3	6:30 A.M.; 63° F; winds 0-1 mph; 100% cloud cover	7:15 A.M.; 64° F; winds 0-1 mph; 100% cloud cover
5/28/03	4-1a 4-1cE 4-3a, b	A. Clark D. Busby	CAGN 2	7:00 A.M.; 62° F; winds 0-2 mph; clear sky	11:45 A.M.; 61° F; winds 1-3 mph; 100% cloud cover
5/30/03	2-1b	C. Jones	CAGN 3	6:15 A.M.; 63° F; winds 0-3 mph; 100% cover	10:15 A.M.; 70° F; winds 0-3 mph; 100% cover
6/2/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	12:00 P.M.



**TABLE 1**  
**SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY**  
**(continued)**

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
6/2/03	2-1c 3-2b 3-3a, b, c 4-2c, d	D. Busby	LBV 4	6:30 A.M.; 62° F; winds 0-3 mph; 100% cloud cover	9:30 A.M.; 64° F; winds 0-2 mph; 100% cloud cover
6/3/03	2-1c 2-2aN	C. Jones	CAGN 3	7:30 A.M.; 63° F; winds 0 mph; 100% cloud cover	10:30 P.M.; 65° F; winds 0-3 mph; 100% cloud cover
6/3/03	1-2a, b 2-1b	D. Busby	LBV 4	7:00 A.M.; 60° F; winds 0-2 mph; 100% cloud cover	10:30 A.M.; 63° F; winds 0-2 mph; 100% cloud cover
6/4/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
6/4/03	4-1a 4-1cE, cW 4-1dN, dS 4-1e, f, g, h 4-2c 4-3a, b, c, d	A. Clark D. Busby W. Loeffler	CAGN 3	7:30 A.M.; 62° F; winds 0 mph; 100% cloud cover	12:00 A.M.; 76° F; winds 0-2 mph; 10% cloud cover
6/5/03	2-1a 2-2aS	J. MacAller	CAGN 3	7:30 A.M.; 61° F; winds 0-2 mph; 100% cloud cover	11:20 A.M.; 64° F; winds 0-2 mph; 90% cloud cover
6/6/03	N/A	B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.
6/6/03	2-2b 4-1dS 4-2a, c	D. Busby	LBV 4	8:00 A.M.; 64° F; winds 0-1 mph; 100% cloud cover	11:00 A.M.; 66° F; winds 0-1 mph; 100% cloud cover
6/7/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	12:00 P.M.
6/9/03	4-2b	C. Jones	WIFL 3	10:25 A.M.; 73° F; winds 0-3 mph; clear sky	11:15 A.M.; 75° F; winds 0-5 mph; clear sky
6/11/03	N/A	B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.

**TABLE 1**  
**SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY**  
**(continued)**

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
6/12/03	2-1c 2-2c 3-2b 3-3a, b, c 4-2c, d	D. Busby	LBV 5	6:30 A.M.; 64° F; winds 0 mph; 100% cloud cover	9:45 A.M.; 65° F; winds 0-2 mph; 100% cloud cover
6/13/03	1-2a, b 2-1b	D. Busby	LBV 5	7:00 A.M.; 62° F; winds 0-1 mph; 100% cloud cover	10:00 A.M.; 65° F; winds 0-1 mph; 50% cloud cover
6/16/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
6/16/03	2-2b 4-2a, b 4-1dS	D. Busby	LBV 5	8:00 A.M.; 63° F; winds 0-1 mph; 100% cloud cover	10:45 A.M.; 65° F; winds 0-1 mph; 100% cloud cover
6/17/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
6/18/03	1-2a 2-1b 4-2b, c	C. Jones	WIFL 2	7:00 A.M.; 61° F; winds 0-3 mph; 100% cloud cover	11:00 A.M.; 67° F; winds 0-3 mph; 100% cloud cover
6/20/03	N/A	B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.
6/25/03	2-1c 2-2c 3-2b 3-3a, b, c 4-2c, d	D. Busby	LBV 6	6:15 A.M.; 59° F; winds 0 mph; clear sky	9:45 A.M.; 61° F; winds 0-1 mph; clear sky
6/26/03	2-1b 1-2a, b	D. Busby	LBV 6	8:00 A.M.; 69° F; winds 0 mph; clear sky	11:00 A.M.; 76° F; winds 2-6 mph; 50% cloud cover
6/27/03	2-2b 4-2a, b 4-1dS	D. Busby	LBV 6	6:45 A.M.; 64° F; winds 0 mph; 100% cloud cover	9:15 A.M.; 65° F; winds 0 mph; 100% cloud cover

**TABLE 1**  
**SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY**  
**(continued)**

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
7/3/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
7/7/03	2-1c 2-2c 3-2b 3-3a, b, c 4-2c, d	D. Busby	LBV 7	7:30 A.M.; 64° F; winds 0-2 mph; 100% cloud cover	11:00 A.M.; 70° F; winds 0-2 mph; clear sky
7/9/03	1-2a, b 4-2b, c	C. Jones	LBV 7 WIFL 3	7:30 A.M.; 67° F; winds 0-3 mph; 100% cloud cover	11:15 A.M.; 75° F; winds 0-5 mph; clear sky
7/9/03	2-1b	D. Busby	LBV 7	8:00 A.M.; 67° F; winds 0 mph; 100% cloud cover	9:45 A.M.; 69° F; winds 0 mph; 500% cloud cover
7/10/03	2-2b 4-2a, b 4-1dS	D. Busby	LBV 7	7:00 A.M.; 67° F; winds 0-1 mph; 100% cloud cover	9:30 A.M.; 68° F; winds 0-1 mph; 100% cloud cover
7/11/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
7/16/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
7/18/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
7/23/03	2-1b 1-2a 1-2b	D. Busby	LBV 8	8:00 A.M.; 64° F; winds 0 mph; 100% cloud cover	10:45 A.M.; 70° F; winds 1-3 mph; light haze
7/25/03	2-2b 4-2a, b 4-1dS	D. Busby	LBV 8	7:15 A.M.; 68° F; winds 0 mph; 100% cloud cover	10:00 A.M.; 70° F; winds 0 mph; 50% cloud cover
7/28/03	2-1c 2-2c 3-2b 3-3a, b, c 4-2c, d	D. Busby	LBV 8	8:00 A.M.; 71° F; winds 0-3 mph; 100% cloud cover	11:00 A.M.; 79° F; winds 2-3 mph; 75% cloud cover

**TABLE 1**  
**SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY**  
**(continued)**

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
7/31/03	N/A	B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.
8/1/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
8/26/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
10/7/03	N/A	B. Primrose	Vegetation Mapping	8:30 A.M.	4:00 P.M.
11/21/03	N/A	B. Primrose M. Dodero	Vegetation Mapping	8:30 A.M.	4:00 P.M.
11/22/03	N/A	B. Primrose M. Dodero	Vegetation Mapping	8:30 A.M.	4:00 P.M.

°F = degrees Fahrenheit; mph = miles per hour; % = percentage; N/A = Not available.

\*Surveyors (full names):

Darin Busby; Amy Clark; Mark Dodero; Angelique Hamel; Cindy Jones; Cheri Kim; Wendy Loeffler; Jennifer MacAller; Harry Price; Brant Primrose; Diana Saucedo-Ortiz; Jill Seed; Brian Woodward

### **3.2.1 Vegetation Communities**

RECON biologists Wendy Loeffler, Cheri Kim, Jennifer MacAller, and Jill Seed mapped vegetation communities on September 27, 2002 on a 1 inch equals 400 feet aerial photograph flown in January 2001. Vegetation communities were assessed and mapped within each subunit. Vegetation community classifications follow Holland (1986). Communities were field verified in 2003 by Mark Doderio and Brant Primrose during the sensitive plant surveys and the maps revised accordingly.

### **3.2.2 General Plant Surveys**

RECON biologist Brant Primrose conducted general plant surveys. The survey dates are presented in Table 1. All plant species apparent at the time of the surveys were recorded for each subunit. Floral nomenclature for common species follows Hickman (1993) and Munz (1974) and for ornamental species follows Staff of the L. H. Bailey Hortorium (1976). Species that could not be readily identified in the field were collected and identified using a taxonomic key. Any additional plants identified during the sensitive plants focused surveys were also recorded and the species lists revised accordingly.

### **3.2.3 Sensitive Plant Surveys**

RECON biologists Brant Primrose and Mark Doderio conducted sensitive plant surveys. The survey dates are presented in Table 1. All sensitive plants observed during the general and focused rare plant surveys were mapped on a 1 inch equals 400 feet aerial photograph flown in January 2001. Floral nomenclature for sensitive species follows Hickman (1993), California Native Plant Society (CNPS; 2001), Simpson and Rebman (2001), Beauchamp (1986), and Reiser (2001). Species that could not be readily identified in the field were collected and identified using a taxonomic key.

Suitable habitat for sensitive plant species was identified based on previously mapped locations and physical characteristics of the area (e.g., vegetation and soils). The schedule of the surveys accounts for the variances in plant species blooming periods.

## **3.3 Wildlife**

Table 1 provides the dates and times that wildlife surveys were conducted, the personnel involved, and the weather conditions under which the surveys were conducted.

Zoological nomenclature for birds is in accordance with the American Ornithologists' Union Checklist (1998) and Unitt (1984); for mammals, Jones et al. (1997) and Hall (1981); and for amphibians and reptiles, Crother (2001) and Crother et al. (2003). Assessments of the sensitivity of species and habitats are based primarily on CNPS (2001), State of California (2003a, 2003b, 2003c, 2003d, 2003e), U.S. Fish and Wildlife Service (USFWS; 2002), and Holland (1986).

### **3.3.1 General Wildlife Surveys**

General wildlife surveys were conducted by walking extensively throughout each PMA subunit. All wildlife observed or detected was recorded. Tracks, scat, burrows, den sites, vocalizations, and other species-specific sign were also used to identify wildlife presence in the field. Wildlife observed incidentally while conducting other surveys were also recorded.

Direct observations of predators or their sign were mapped on a 1 inch equals 400 feet scale aerial photograph flown in January 2001. Predators of interest include, but are not limited to, western spotted skunk (*Spilogale gracilis*), striped skunk (*Mephitis mephitis*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), Virginia opossum (*Didelphis virginiana*), and bobcat (*Lynx rufus*).

### **3.3.2 General Bird Surveys**

RECON biologists conducted seasonal bird surveys in all PMAs during the summer and fall of 2002 (see Table 1). Birds were identified visually or by their vocalizations. All sensitive bird species locations were mapped on a 1 inch equals 400 feet scale aerial photograph flown in January 2001. Winter bird surveys were conducted in December of 2002 and January of 2003. Nesting bird surveys were conducted between April and June of 2003.

### **3.3.3 Focused Bird Surveys**

Focused surveys were conducted for three listed bird species: coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*). See Table 1 for survey dates, times, personnel, and weather conditions.

RECON biologists conducted focused surveys for the federally listed threatened coastal California gnatcatcher in the spring of 2003 according to the USFWS Coastal California Gnatcatcher Survey Guidelines (USFWS 1997) that require three surveys conducted at least seven days apart. Surveys were conducted between April 22 and June 5. Incidental sightings of this species made during all other surveys were recorded.

RECON biologists Cynthia Jones and Darin Busby conducted focused surveys for least Bell's vireo according to USFWS survey guidelines that require eight surveys at least 10 days apart between April 1 and July 31 (USFWS 2001). The surveyors walked meandering transects adjacent to areas of suitable least Bell's vireo habitat within the survey area.

Cynthia Jones conducted focused surveys for the southwestern willow flycatcher according to the accepted guidelines provided by the USFWS protocol (Sogge et al. 1997; USFWS 2000), which require at least one survey between May 15 and 31; one

survey between June 1 and 21; and three surveys, at least five days apart, between June 22 and July 17.

#### **3.3.4 Roadkill**

Roadkill surveys consisted of searching for any animal remains on (or near) roads and highways adjacent to or within each PMA subunit. A carcass would be considered roadkill if death was clearly caused by motorized vehicular traffic.

#### **3.4 Wildlife Movement and Corridors**

Habitat linkages and wildlife corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Habitat linkages and wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations. These areas are considered sensitive by the City of Chula Vista and resource and conservation agencies.

Wildlife movement corridors and potential wildlife movement corridors were mapped based on the presence of adjacent or nearby open space, the connectivity of PMA subunits, and the ability for wildlife to flow from region to region. Areas identified as potential wildlife movement corridors include pathways that connect subunits across lower-traffic volume roads, where nocturnal terrestrial movement may be possible.

#### **3.5 Drainages, Culverts, and Desiltation Basins**

Major drainages and channels are defined here as either natural or artificial channels that provide a course for the flow of water, whether that flow is continuous or intermittent. These drainages occur in the canyon bottoms and are often associated with riparian vegetation.

Culverts are structures that allow the flow of water along the ground level or a drainage structure that extends across or beneath roadways, canals, or embankments. Culverts are used for both roadway drainage and for channel crossings. Culverts are made of a variety of materials, including corrugated metal pipe, concrete, and plastic. They also come in a variety of shapes, including round, box, and arch. End sections are often placed on culverts to control and enhance the entrance and exit hydraulic conditions. Often times, larger culverts contribute to wildlife movement. The locations of culverts and potential wildlife movement areas are shown on Figures 5 through 11, which are at the end of each PMA section.

Desiltation basins, for the purposes of this document, are man-made structures that are able to reduce the velocity of moving water with a resulting deposition of silt particles

onto the bottom of the basin or behind the structure. The locations of desiltation basins are shown on Figures 5 through 11, which are at the end of each PMA section.

Sewer alignments traverse various subunits. Access roads and staging areas for maintenance are situated on or adjacent to the sewer alignments. These maintenance roads and areas are depicted on Figures 5 through 11, which are at the end of each PMA section.

### **3.6 Dumping, Trespassing, and Vagrant Encampments**

Any signs of illegal trash dumping or trespassing, including bicycle paths and vagrant encampments, were noted and mapped.

## **4.0 RESOURCES AND SURVEY RESULTS**

Resources and survey results for PMAs 1 through 4 are discussed separately in the following sections. To eliminate repetition of general information throughout the document, resource descriptions and survey results have been provided in attachments at the end of this document. Attachment 3 provides general vegetation communities descriptions, Attachment 4 is a list of all plant species historically observed/detected in PMAs 1-4, Attachment 5 lists all sensitive plant species observed or potential to occur in PMAs 1-4, and Attachment 6 is the species status codes. Attachment 7 provides general descriptions of sensitive plant species discussed in this document. Attachment 8 is a list of all wildlife species observed/detected in PMAs 1-4, Attachment 9 lists all sensitive wildlife species observed or with potential to occur in PMAs 1-4. Attachment 10 provides general descriptions of sensitive wildlife species discussed in this document. Attachments 11-18 provide the detailed breakdown of plants and animal species identified during the current surveys by subunit within each PMA.

### **4.1 PMA 1**

PMA 1 consists of nine subunits totaling 502.6 acres. All figures pertaining to PMA 1 are in numerical order at the end of this section. Figure 4 presents an overview of the subunits and Figure 5 is the locator map for Figures 5a-5m.

#### **4.1.1 Site Description**

##### **4.1.1.1 Topography**

The subunits in PMA 1 contain a series of moderately steep hills and canyons cut by arroyos that feed into Rice Canyon through the center of the PMA and the Sweetwater Valley to the north. Elevation varies between 100 feet above mean sea level (AMSL) at the western edge to three peaks in the eastern part of the PMA that are between 480 and 490 feet AMSL. The southeastern half of the PMA forms part of the watershed of Rice Creek, an intermittent stream that flows from riparian habitat into culverts where it



reaches the I-805 corridor. The northern part of PMA 1 contains generally north-facing slopes above the broad floodplain of the Sweetwater River (U.S. Geological Survey [USGS] 1967a).

#### 4.1.1.2 Soils

PMA 1 contains the following soil types: Linne clay loam, Diablo clay, Olivenhain cobbly loam, Salinas clay loam, and terrace escarpments. Linne clay loam and Diablo clay soils are well-drained, moderately deep to deep soils that are derived from calcareous marine sandstone and shale. The topsoil in Diablo clay soils is dark gray topsoil, and in Linne clay loam soils is gray. Olivenhain cobbly loam soils are similar to these soils, but are formed from alluvium and have a brown to reddish brown cobbly loam topsoil layer. Olivenhain cobbly loam soils are found in or on the plateaus and high hills in the area. Diablo clay soils are found predominantly in the northern part of the area and in Rice Canyon. Other common soils in the area are Salinas clay loams, which occur along Rice Canyon, and terrace escarpments in the western end of the site (U.S. Department of Agriculture [USDA] 1973).

#### **4.1.2 Botanical Resources**

There are nine vegetation communities and land cover types present in PMA 1: maritime succulent scrub, Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, southern willow scrub, native grassland, freshwater marsh, non-native grassland, eucalyptus woodland, and disturbed. The acreages of these vegetation communities within PMA 1 are shown in Table 2. Vegetation communities mapped on-site are shown on Figures 5a-5m. The following text provides detailed descriptions of the vegetation communities specific to PMA 1. See Attachment 3 for complete general vegetation community descriptions.

Plants historically observed within the PMA 1 are listed in Attachment 4. Attachment 11 provides a list of plants identified during the current surveys in each subunit of PMA 1.

**TABLE 2**  
**VEGETATION COMMUNITIES AND**  
**LAND COVER TYPES ON PMA 1**

Vegetation Type	Acres
Maritime succulent scrub	149.5
Diegan coastal sage scrub	297.0
Disturbed Diegan coastal sage scrub	8.5
Southern willow scrub	16.8
Native grassland	15.0
Non-native grassland	2.1
Freshwater marsh	0.3
Eucalyptus woodland	0.7
Disturbed	12.7
Total for PMA 1	502.6

4.1.2.1 Maritime Succulent Scrub (149.5 acres) (Holland Code 32400)

In PMA 1, this vegetation community is generally dense and dominated by jojoba (*Simmondsia chinensis*) and succulent species such as shore cactus (*Opuntia littoralis*), cholla (*Cylindropuntia prolifera*), snake cholla (*Cylindropuntia californica* var. *californica*), and Mohave yucca (*Yucca schidigera*). Maritime succulent scrub provides quality habitat for sensitive wildlife species such as the coastal cactus wren (*Campylorhynchus brunneicapillus couesi*).

4.1.2.2 Diegan Coastal Sage Scrub (297.0 acres) and Disturbed Diegan Coastal Sage Scrub (8.5 acres) (Holland Code 32500)

In PMA 1, this vegetation community is considered to be high-quality habitat for a number of wildlife species including the federally listed threatened coastal California gnatcatcher (*Poliophtila californica californica*) and woodrat (*Neotoma* spp.). This vegetation community is dominated by species such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), broom baccharis (*Baccharis sarothroides*), common encelia (*Encelia californica*), coast goldenbush (*Isocoma menziesii*), and lemonadeberry (*Rhus integrifolia*). Areas dominated by California sagebrush and California buckwheat range in average shrub height from three to six feet. These areas tend to occur on south-facing slopes. Lemonadeberry dominated areas average shrub height ranges from 8 to 15 feet. These areas are generally on the north-facing slopes.

Disturbed Diegan coastal sage scrub is present in areas that include a greater percentage of weedy, non-native species. These include black mustard (*Brassica nigra*), star-thistle (*Centaurea melitensis*), wild oats (*Avena* sp.), pampas grass (*Cortaderia selloana*), and bromes (*Bromus* spp.).

#### 4.1.2.3 Non-native Grassland (2.1 acres) (Holland Code 42200)

In PMA 1, non-native grassland is primarily dominated by wild oats, black mustard, pampas grass, and star-thistle. This vegetation community provides foraging habitat for raptor species such as red-shouldered hawk (*Buteo lineatus elegans*) and mammal species such as desert cottontail (*Sylvilagus audubonii*). The average height of this vegetation ranges from two to three feet in the star-thistle dominated areas to eight feet and higher in black mustard dominated areas.

#### 4.1.2.4 Southern Willow Scrub (16.8 acres) (Holland Code 63320)

Within PMA 1, southern willow scrub is primarily dominated by western sycamore (*Platanus racemosa*), western cottonwood (*Populus fremontii*), Gooding's black willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*), and red willow (*Salix laevigata*). This habitat provides foraging and breeding habitat for several sensitive birds including yellow warbler (*Dendroica petechia*). Southern willow scrub average vegetation height varies depending on the age and type of tree species present. In general, vegetation height averages 30 feet, and can be higher for more mature stands and/or those dominated by western sycamores and western cottonwoods.

#### 4.1.2.5 Native Grassland (15.0 acres) (Holland Code 42100)

Native grassland occurs in patches averaging approximately 0.75 acre in size. These patches are present within the Diegan coastal sage scrub vegetation and are dominated by species including needlegrass (*Nassella* sp.), common goldenstar (*Bloomeria crocea* ssp. *crocea*), and blue-eyed grass (*Sisyrinchium bellum*). Significant Otay tarplant (*Deinandra conjugens*) and small-flowered morning glory (*Convolvulus similans*) populations are present in several of the subunits; these areas are mapped on Figures 5b, 5c, 5e, 5f, and 5j. Non-native grass species such as wild oats and bromes have invaded the native grassland areas to some extent. Native grasslands range in average vegetation height from one to three feet.

#### 4.1.2.6 Freshwater Marsh (0.3 acre) (Holland Code 52400)

The small patch of freshwater marsh in subunit 1-2a is dominated by cattails (*Typha* sp.). The extremely small patch size does not provide quality habitat for many species; however, amphibian species such as Pacific treefrog (*Hyla regilla*) have the potential to occur. The average vegetation height of a freshwater marsh is approximately five to seven feet.

#### 4.1.2.7 Eucalyptus Woodland (0.7 acre) (Holland Code 11100)

The area of eucalyptus woodland in subunit 1-1b is dominated by eucalyptus (*Eucalyptus* spp.) trees with little to no understory species present. Despite the monoculture of plant species and lack of canopy diversity, eucalyptus woodland areas

support nectar and insect-eating bird species such as Anna's hummingbird (*Calypte anna*) and house finch (*Carpodacus mexicanus frontalis*). Raptor species use eucalyptus woodlands for hunting and nesting. Eucalyptus woodlands range in height from 30 to 50 feet or higher in more mature stands.

#### 4.1.2.8 Disturbed (12.7 acres) (Holland Code 12000)

Disturbed habitat in PMA 1 includes trails and open areas that have been cleared of vegetation. These disturbed areas have a mixture of native and non-native vegetation including California buckwheat, broom baccharis, wild oats, ripgut grass (*Bromus diandrus*), and star-thistle (*Centaurea melitensis*).

The City of Chula Vista and SDG&E maintain access roads in the Preserve. The access roads are generally wider than pedestrian trails to allow for vehicular access. Specifically, an SDG&E transmission line traverses the eastern portion of PMA 1 in a southwest to northeast direction. Associated access roads for the transmission line are in subunits 1-2c, 1-2d, and 1-2e.

### **4.1.3 Zoological Resources**

Attachment 8 provides a complete list of all wildlife species present in PMAs 1-4. Attachment 12 provides a list of species present specifically within each subunit of PMA 1. Wildlife observed includes 15 species of butterflies, 6 species of reptiles, 69 species of birds, and 8 species of mammals.

#### 4.1.3.1 Amphibians

Amphibians require moisture for at least a portion of their lifecycle, with many requiring a permanent water source for habitat and reproduction. Terrestrial amphibians have adapted to more arid conditions and are not completely dependent on a perennial or standing source of water. These species avoid desiccation by burrowing beneath the soil or leaf litter during the day and during the dry season.

No amphibians were observed in PMA 1. Some common species expected to occur in the central drainage (subunits 1-2a and 1-2b) include Pacific treefrog (*Hyla regilla*) and bullfrog (*Rana catesbeiana*).

#### 4.1.3.2 Reptiles

The diversity and abundance of reptile species vary with habitat type. Many reptiles are restricted to certain vegetation communities and soil types, although some species may forage in adjacent communities. Other species are ubiquitous and use a variety of vegetation types for foraging and shelter.

Six reptile species were detected in PMA 1. The three common species are the western fence lizard (*Sceloporus occidentalis*), common side-blotched lizard (*Uta stansburiana*), and the San Diego gopher snake (*Pituophis catenifer annectens*). Belding's orange-throated whiptail (*Aspidoscelis* [= *Cnemidophorus*] *hyperythrus beldingi*), San Diego horned lizard (*Phrynosoma coronatum blainvillii*), and red diamond rattlesnake (*Crotalus exsul*) were all detected within PMA 1 as well. These sensitive reptile species are described in the Sensitive Species section.

#### 4.1.3.3 Birds

The ability of native habitats to support a diversity of bird species is dependent on quality, habitat size and diversity, and the degree of fragmentation. Diegan coastal sage scrub provides good foraging, nesting, and cover for a variety of birds, including songbirds. Grassland habitats support a number of grassland birds and provides foraging habitat for raptors as well. Riparian habitats typically have a high number of bird species because they provide protection and food even throughout the dry summer months.

Bird species commonly observed in the scrub vegetation include wrentit (*Chamaea fasciata henshawi*), California towhee (*Pipilo crissalis*), spotted towhee (*P. maculatus*), western scrub-jay (*Aphelocoma californica*), Bewick's wren (*Thyromanes bewickii*), and lesser goldfinch (*Carduelis psaltria*).

Riparian vegetation communities provide habitat for many resident and migratory bird species. Species observed within the southern willow scrub include song sparrow (*Melospiza melodia*), common yellowthroat (*Geothlypis trichas*), house wren (*Troglodytes aedon parkmanii*), lesser goldfinch, yellow-rumped warbler (*Dendroica coronata*), and song sparrow (*Melospiza melodia*).

Birds typically found in non-native grassland and disturbed environments include American crow (*Corvus brachyrhynchos hesperis*), black phoebe (*Sayornis nigricans semiatra*), mourning dove (*Zenaida macroura marginella*), northern mockingbird (*Mimus polyglottos*), and house finch (*Carpodacus mexicanus frontalis*).

#### 4.1.3.4 Mammals

Naturally vegetated areas provide cover and foraging opportunities for a variety of mammal species. Many mammal species are nocturnal and are detected during daytime surveys by sign such as scat, tracks, and burrows.

Mammal species observed and detected within PMA 1 include desert cottontail, California ground squirrel (*Spermophilus beecheyi*), coyote, common raccoon (*Procyon lotor*), gray fox, and bobcat. These are likely to be present in any of the vegetation communities and habitats found within PMA 1.

#### 4.1.4 Sensitive Species

For purposes of this report, a species is considered sensitive if it is: (1) listed by state or federal agencies as threatened or endangered or are candidates or proposed for such listing; (2) considered rare, endangered, or threatened by the State of California and listed in the Natural Diversity Data Base (NDDDB; State of California 2003a, 2003b, 2003c, 2003d, 2003e); (3) a narrow endemic or covered species in the City of Chula Vista Multiple Species Conservation Program Subarea Plan (City of Chula Vista 2003); (4) on Lists 1B or 2 of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (2001); or (5) considered rare, sensitive, or noteworthy by local conservation organizations or specialists. Noteworthy plant species are considered to be those that are on Lists 3 and 4 of the CNPS *Inventory*. Sensitive habitat types are those identified by the NDDDB (State of California 2003e) and Holland (1986). Assessments for the potential occurrence of sensitive or noteworthy species are based upon known ranges and habitat preferences for the species and species occurrence records from the NDDDB.

Attachment 5 lists the sensitive plant species known to occur or with potential to occur in the PMAs. Attachment 6 lists sensitivity status codes. Attachment 7 provides complete general descriptions of all sensitive plant species discussed in this document. Attachment 9 lists the sensitive animal species known to occur or with potential to occur in the PMAs. Attachment 10 provides complete general descriptions of all sensitive wildlife species discussed in this document. Descriptions include sensitivity status, life history, and range. Figures 5a-5m map the locations of sensitive wildlife and plants detected during the current surveys.

##### 4.1.4.1 Sensitive Plant Species

Twelve listed, sensitive, and rare plant species are present in PMA 1. Several sensitive plant species are historically known from the PMA or are known to occur in the vicinity of the site, but were not observed during surveys. Many of these species, such as shrubs, would have been easily observed on the site during plant surveys. Because they were not observed, they are considered to have a low potential for occurrence or are not expected to occur. In other cases, species that are perennial or annual herbs may not have been detected due to timing constraints. Every PMA subunit was surveyed at least once; PMA subunits with an expectation of supporting rare plants were resurveyed for a minimum of two times to account for seasonal differences. Because some PMA subunits were only surveyed once during the year this could have led to the smaller herbaceous species not being detected on these subunits even though they may be present in small numbers. These species are discussed below.

Plant counts are provided for most of the sensitive species and the highest priority for conducting plant counts was for state and federally listed and MSCP covered species, including narrow endemics. In some cases, counts were not made for species that are

regionally considered sensitive by CNPS, such as San Diego County viguiera or small-flowered morning glory because the level of effort required to do so would have diminished our ability to accomplish higher priority counts for listed and covered species.

## **Observed**

**San Diego thornmint (*Acanthomintha ilicifolia*)—a narrow endemic species covered under the MSCP.** This annual is federally listed threatened, state listed as endangered, and is a CNPS List 1B species. San Diego thornmint individuals are present along the southeast side of Rice Canyon in subunit 1-2b. There is a population of approximately 1,430 individuals growing in a clay lens adjacent to the drainage.

**San Diego bur-sage (*Ambrosia chenopodifolia*).** This perennial shrub is a CNPS List 2 species. A few individuals of this species are present in PMA subunit 1-1a, within Diegan coastal sage scrub.

**South coast saltbush (*Atriplex pacifica*).** This prostrate perennial is a CNPS List 1B species. This plant is present in subunits 1-1a and 1-2b; and four individuals are present in subunit 1-2a.

**Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*).** This annual is a CNPS List 1B species. This species was found in subunits 1-1b (15 individuals) and 1-2a (two individuals).

**Small-flowered morning glory (*Convolvulus similans*).** This annual is a CNPS List 4 species. Thousands of individuals of this species were found along the drainage of Rice Canyon in subunit 1-2b, and in subunits 1-1c and 1-1d.

**Snake cholla (*Cylindropuntia californica* [= *Opuntia californica* var. *californica*])—a narrow endemic covered under the MSCP.** This perennial cactus is a CNPS List 1B species. A few individuals are scattered in Diegan coastal sage scrub in PMA 1 subunits 1-1a, 1-1b, and 1-2b. Thirty-four individuals are present in subunit 1-2a.

**Otay tarplant (*Deinandra conjugens* [= *Hemizonia conjugens*])—a narrow endemic species covered under the MSCP.** This annual is federally threatened, state listed as endangered, an MSCP covered species, is considered a narrow endemic, and is a CNPS List 1B species. There is a population of this species exceeding 60,000 individuals in subunit 1-1a immediately adjacent to the access road that leads to a desiltation basin. Approximately 100,000 individuals are present in the native grassland vegetation in subunit 1-2b. There are populations of this species of approximately 50 individuals in subunit 1-1b, 1000 individuals in subunit 1-1d, and 30,000 individuals in subunit 1-1c.

**Variegated dudleya (*Dudleya variegata*)—a narrow endemic species covered under the MSCP.** This succulent perennial is a MSCP covered species, is considered to

be a narrow endemic, and a CNPS List 1B species. This species is present in subunits 1-1c (30 individuals) and 1-2b (220 individuals).

**San Diego barrel cactus (*Ferocactus viridescens*)—an MSCP covered species.** This succulent perennial is a CNPS List 2 species. There are a few individuals present in subunit 1-1a, and approximately 15 individuals in subunit 1-2a. A population of approximately 60 individuals is present in subunit 1-2e.

**Palmer's grappling hook (*Harpagonella palmeri* var. *palmeri*).** This annual herb is a CNPS List 2 species. This species is present in subunits 1-1a, 1-1b, and 1-1c. A population of approximately 200 individuals is present in subunit 1-2b.

**San Diego sand aster (*Lessingia filaginifolia* var. *filaginifolia* [= *Corethrogyne filaginifolia* var. *incana*]).** This perennial herb is a CNPS List 1B species. Small, scattered populations of this species are present in subunits 1-1a, 1-1b, 1-1c, 1-1d, 1-2a, 1-2c, and 1-2d, typically in Diegan coastal sage scrub.

**San Diego County viguiera (*Viguiera laciniata*).** This perennial shrub is a CNPS List 4 species. This species was observed in PMA subunits 1-1a, 1-1c, 1-1d, 1-2a, 1-2b, 1-2c, 1-2d, and 1-2e.

#### **Not Observed**

**California adolphia (*Adolphia californica*).** This perennial shrub is a CNPS List 2 species. There is low potential for this shrub to occur on the clay-soil slopes. Although not observed, a few scattered individuals may have not been detected in the dense matrix of coastal sage scrub.

**San Diego ambrosia (*Ambrosia pumila*).** This perennial herb is a federally threatened species and considered to be an MSCP narrow endemic species. San Diego ambrosia has a low potential to occur in the drainage of Rice Canyon. This species prefers sandy alluvium in creek beds, seasonally dry drainages, and floodplains. Loamy clay soils are present in these areas in PMA 1.

**Golden-spined cereus (*Bergerocactus emoryi*).** This perennial cactus is a CNPS List 2 species. There is a low potential for golden-spined cereus to occur even though suitable habitat is present because the species is at the northern limits of its range and the species is unlikely to have been missed during surveys.

**Orcutt's brodiaea (*Brodiaea orcuttii*).** This perennial herb is a CNPS List 1B species. Orcutt's brodiaea has a low potential to occur on PMA 1. This plant typically grows adjacent to vernal pools, which do not occur in PMA 1.

**Orcutt's bird's-beak (*Cordylanthus orcuttianus*).** This annual herb is a CNPS List 2 species. Orcutt's bird's beak has a moderate potential to occur. The species may be



present in low numbers, but may not have been detected due to seasonal survey constraints as discussed above.

**Palmer's ericameria (*Ericameria palmeri* var. *palmeri* [= *Haplopappus palmeri* ssp. *palmeri*]).** This perennial shrub is a narrow endemic covered under the MSCP. Palmer's ericameria has a low potential to occur. The preferred habitat contains sandy loam soils, as opposed to the clay and clay loams found in PMA 1.

**Cliff spurge (*Euphorbia misera*).** This succulent perennial shrub is a CNPS List 2 species. There is a low potential for cliff spurge to occur in areas of Olivenhain soils with a sufficient cobbly loam layer to support this species, but much of that soil type on the mesa tops in the area has been impacted by development.

**San Diego marsh elder (*Iva hayesiana*).** This perennial shrub is a CNPS List 2 species. There is a low potential for this species to occur in the ephemeral drainage habitats in PMA 1, but the species was not detected.

**Spiny rush (*Juncus acutus* ssp. *leopoldii*).** This is a CNPS List 4 species. There is a low potential for this species to occur in the ephemeral drainage habitats in PMA 1.

**San Diego goldenstar (*Muilla clevelandii*).** This perennial herb is a CNPS List 1B species. San Diego goldenstar typically grows in gravelly clay loam soils. There is a moderate potential for this species to occur, but common goldenstar was observed in all areas that appeared to have suitable habitat for San Diego goldenstar. Nearby populations occur on Otay Mesa, Proctor Valley Road, and San Miguel Mountain.

**Spreading navarretia (*Navarretia fossalis*).** This annual herb is a federally threatened species, and is a narrow endemic covered under the MSCP. Suitable vernal pool habitat is not present in PMA 1 and this species is not expected to occur.

**Otay mesa mint (*Pogogyne nudiuscula*).** This annual herb is a federal and state endangered species, an MSCP covered species, and is considered to be a narrow endemic. Suitable vernal pool habitat is not present in PMA 1 and this species is not expected to occur.

**Nuttall's scrub oak (*Quercus dumosa*).** This perennial shrub is a CNPS List 1B species. This species was not observed during surveys and has a low potential to occur on more densely vegetated north-facing slopes.

**Munz's sage (*Salvia munzii*).** This perennial shrub is a CNPS List 2 species. Munz's sage was not detected on PMA 1, and has a low potential to occur in coastal sage scrub.

#### 4.1.4.2 Sensitive Amphibians

No sensitive amphibians have been detected in PMA 1. One sensitive species with the potential to occur is the western spadefoot (*Spea hammondi*). This species is discussed below.

##### **Not Observed**

**Western spadefoot (*Spea hammondi*).** The western spadefoot is a CDFG species of special concern. There is a moderate potential for this species to occur in the riparian and wetland habitat present on PMA 1.

#### 4.1.4.3 Sensitive Reptiles

Two sensitive species were observed in PMA 1. A number of other sensitive species have a potential to occur. These species are discussed below.

##### **Observed**

**Belding's orange-throated whiptail (*Aspidoscelis [=Cnemidophorus] hyperythrus beldingi*)—an MSCP covered species.** Belding's orange-throated whiptail is a CDFG species of special concern. This species was observed in subunit 1-2b and is expected to occur throughout PMA 1.

**San Diego horned lizard (*Phrynosoma coronatum blainvillii*)—an MSCP covered species.** This species is a CDFG species of special concern. San Diego horned lizard was observed in subunits 1-2a and 1-2c. This species is likely to occur in the coastal sage scrub habitat throughout PMA 1.

**Red diamond rattlesnake (*Crotalus exsul*).** The red diamond rattlesnake is a CDFG species of special concern. A red diamond rattlesnake was observed in subunit 1-2a and is expected to occur throughout PMA 1.

##### **Not Observed**

**Coronado skink (*Eumeces skiltonianus interparietalis*).** The Coronado skink is a CDFG species of special concern. Suitable grassland habitat for this species is present on PMA 1 and there is a moderate potential for it to occur.

**Silvery legless lizard (*Anniella pulchra pulchra*).** This species is a CDFG species of special concern. The silvery legless lizard has a low potential to occur in loose, sandy areas of the southern willow scrub vegetation in Rice Canyon.

**Coastal western whiptail (*Cnemidophorus tigris multiscutatus*).** This species has a moderate potential to occur in open areas of PMA 1, including the native grassland and southern willow scrub habitat.

**Coast patch-nosed snake (*Salvadora hexalepis virgultea*).** The coast patch-nosed snake is a CDFG species of special concern. This species has a potential to occur in grassland or scrub areas of PMA 1 that have sandy or rocky soils suitable for burrowing.

**Two-striped garter snake (*Thamnophis hammondi*).** The two-striped garter snake is a CDFG species of special concern. This species has a moderate potential to occur near the drainages in PMA 1.

#### 4.1.4.4 Sensitive Birds

Seven sensitive bird species were detected on PMA 1 and are shown on Figures 5a-5m. Several others have the potential to occur. These species are discussed below.

##### **Observed**

**Cooper's hawk (*Accipiter cooperii*)—an MSCP covered species.** The Cooper's hawk is a CDFG species of special concern. Cooper's hawk was observed in subunits 1-1a, 1-1c, 1-1d, 1-2b, and 1-2d. Nesting evidence was observed in subunit 1-2a. Suitable foraging and nesting habitat is present in PMA 1.

**Sharp-shinned hawk (*Accipiter striatus*).** This species is a CDFG species of special concern. Sharp-shinned hawk was observed in subunits 1-1a and 1-2b. Foraging habitat is present in the southern willow scrub and eucalyptus woodland, and to a lesser extent, in the scrub habitat. This species is a rare breeder in San Diego County and not expected to nest within PMA 1.

**Swainson's hawk (*Buteo swainsoni*)—an MSCP covered species.** The Swainson's hawk is state listed as threatened. Swainson's hawk was observed flying over PMA 1 (subunit 1-1a). Foraging habitat is present, but this species is not expected to breed in the area as the local breeding population has been extirpated (Unitt 1984).

**Vaux's swift (*Chaetura vauxi vauxi*).** The Vaux's swift is a CDFG species of special concern. This fall migrant was observed flying over subunits 1-1a and 1-2b. This species is not expected to nest locally.

**Coastal cactus wren (*Campylorhynchus brunneicapillus couesi*) —an MSCP covered species.** The coastal cactus wren is a CDFG species of special concern. Seven coastal cactus wren locations were observed in PMA 1. One location is in the maritime succulent scrub in subunit 1-1a. Six locations are in the maritime succulent scrub in subunit 1-2b. Individuals exhibiting nesting behavior (i.e., carrying nesting material or feeding young) were observed in subunit 1-2a. Potential nesting habitat is

present in areas containing large patches of cactus species, particularly in the maritime succulent scrub habitat.

**Willow flycatcher (*Empidonax traillii*).** The willow flycatcher is a state listed endangered species. A willow flycatcher of undetermined subspecies was observed in the southern willow scrub habitat along Rice Canyon. This individual was likely using the area as a migration stop-over and did not breed locally.

**Coastal California gnatcatcher (*Polioptila californica californica*)—an MSCP covered species.** The coastal California gnatcatcher is a federally listed threatened species and a CDFG species of special concern. For the purposes of this report, a 'gnatcatcher location' may represent either an individual or pair of gnatcatchers and in general, represents a probable territory. A total of 29 gnatcatcher locations were observed in PMA 1. Five gnatcatcher locations were observed in subunit 1-1a; one of which includes a pair exhibiting nesting behavior (i.e., carrying nesting material). One gnatcatcher nest was positively identified. Two gnatcatcher locations were identified in subunit 1-1d. Six coastal California gnatcatcher locations were observed in subunit 1-2a, one of which includes a pair with three fledglings. Nine gnatcatcher locations were identified in subunit 1-2b. Six gnatcatcher locations were identified in subunit 1-2c. One gnatcatcher location was identified in subunit 1-2e. Additionally, two gnatcatcher locations were identified and mapped outside of the preserve lands (see Figures 5b and 5m). Suitable nesting habitat is available in all of the PMAs.

**Yellow warbler (*Dendroica petechia*).** The yellow warbler is a CDFG species of special concern. A male yellow warbler was observed in the southern willow scrub habitat in subunit 1-2a. Suitable nesting habitat is present, and it is likely that the observed male was part of a breeding pair.

**Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)—an MSCP covered species.** The southern California rufous-crowned sparrow is a CDFG species of special concern. Southern California rufous-crowned sparrow was observed in subunit 1-2b in the coastal sage scrub. Potential breeding and nesting habitat is present in all of the subunits.

#### **Not Observed**

**White-tailed kite (*Elanus leucurus*).** The white-tailed kite is a CDFG fully protected species. Potential foraging and nesting habitat for the white-tailed kite is present in PMA 1.

**Northern harrier (*Circus cyaneus hudsonius*).** The northern harrier is an MSCP covered species and a CDFG species of special concern. Potential foraging and nesting habitat for the northern harrier is present in the grassland and open scrub areas of PMA 1.

**Golden eagle (*Aquila chrysaetos*).** The golden eagle is an MSCP covered species and a CDFG species of special concern. Potential foraging habitat for the golden eagle is present in PMA 1, but the potential for nesting is low. The closest known breeding location is to the northeast at San Miguel Mountain.

**Western burrowing owl (*Speotyto cunicularia hypugaea*).** The western burrowing owl is an MSCP covered species and a CDFG species of special concern. This species has a low potential to occur on PMA 1 during the fall and winter in areas with existing burrows. This species is not expected to nest in the PMA.

**Southwestern willow flycatcher (*Empidonax traillii extimus*).** The southwestern willow flycatcher is an MSCP covered species and a state and federally listed endangered species. This species was not observed during the focused surveys conducted in 2003 and is not expected to breed in PMA 1 due to a lack of suitable breeding habitat. The southern willow scrub present is too narrow and does not provide the proper canopy configuration. However, the southwestern willow flycatcher may use the riparian habitat as a migration stop-over area for foraging during spring and fall.

**California horned lark (*Eremophila alpestris actia*).** The California horned lark is a CDFG species of special concern. There is a moderate potential for this species to forage and breed in the grassland and open scrub areas of PMA 1.

**Loggerhead shrike (*Lanius ludovicianus*).** The loggerhead shrike is a CDFG species of special concern. This species has a high potential to occur in PMA 1, as suitable foraging and breeding habitat is available in the grassland and open scrub areas.

**Least Bell's vireo (*Vireo bellii pusillus*).** The least Bell's vireo is an MSCP covered species and a state and federally listed endangered species. This species was not observed during the focused surveys conducted in 2003. There is a moderate potential for this species to breed in the large drainage in subunits 1-2a and 1-2b that supports southern willow scrub vegetation. This is currently not occupied by this species but could become so in the future if the habitat remains suitable.

**Yellow-breasted chat (*Icteria virens*).** The yellow-breasted chat is a CDFG species of special concern. This species was not observed during the focused riparian bird surveys conducted in 2003. There is moderate potential for the yellow-breasted chat to forage and nest in the suitable southern willow scrub habitat present in PMA 1. This is currently not occupied by this species but could become so in the future if the habitat remains suitable.

**Bell's sage sparrow (*Amphispiza belli belli*).** The Bell's sage sparrow is a CDFG species of special concern. This species was not observed during the focused surveys conducted for coastal California gnatcatcher; however, the habitat appears suitable and

there is a low potential for this species to colonize areas of dense scrub in PMA 1 in the future.

**Grasshopper sparrow (*Ammodramus savannarum*).** There is a moderate potential for this species to occur in areas of tall grassland habitat on PMA 1.

**Tricolored blackbird (*Agelaius tricolor*).** The tricolored blackbird is an MSCP covered species and a CDFG species of special concern. There is a potential for this species to forage in PMA 1, but it is unlikely to breed given the lack of a sizable area of freshwater marsh habitat and the proclivity of this species to occur in flocks.

**Western bluebird (*Sialia mexicana*).** The western bluebird is an MSCP covered species. The western bluebird is a potential winter migrant to all habitats in PMA 1.

#### 4.1.4.5 Sensitive Mammals

One sensitive mammal species, southern mule deer (*Odocoileus hemionus fuliginata*), was detected in PMA 1. There is a potential for several other sensitive species to occur, including San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), southern grasshopper mouse (*Onychomys torridus ramona*), and San Diego desert woodrat (*Neotoma lepida intermedia*). These species are discussed below.

#### **Observed**

**Southern mule deer (*Odocoileus hemionus fuliginata*)—an MSCP covered species.** Southern mule deer tracks were observed in subunit 1-2a. This species is likely to occur in most subunits of PMA 1, provided the open space area is large enough or provides movement from one open area to another.

#### **Not Observed**

**Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*).** The northwestern San Diego pocket mouse is a CDFG species of special concern. There is a high potential for this species to be present in grassland or disturbed coastal sage scrub areas with sandy soils in PMA 1.

**Southern grasshopper mouse (*Onychomys torridus ramona*).** The southern grasshopper mouse is a CDFG species of special concern. There is a moderate potential for this species to be present in scrub areas with cactus patches in PMA 1.

**San Diego desert woodrat (*Neotoma lepida intermedia*).** The San Diego desert woodrat is a CDFG species of special concern. There is a moderate potential for this species to be present throughout the coastal sage scrub and maritime succulent scrub habitats in PMA 1.

#### 4.1.5 Undescribed Plant Species

***Senecio* sp.** This unknown *Senecio* is a previously undescribed species found by Brant Primrose in Rice Canyon, PMA 1, subunits 1-2a and 1-2b in October of 2002. This perennial species is growing adjacent to a drainage that flows year-round. At the upper end of the drainage, the *Senecio* grows in an alkaline crust with the salt marsh species alkali-heath (*Frankenia salina*). Where the *Senecio* is found further downstream, the habitat becomes more riparian with changing soil composition and plant association. The *Senecio* grows two to eight feet tall. Leaves are linear along the entire stem of the plant and the flowers are small, yellow, and daisy-like. It grows in a large colonial-type pattern through the drainage areas. There are thousands of *Senecio* plants in the two subunits.

One individual of this species was detected in Irvine, California, several years ago by a biologist. Taxonomic identification was never pursued and this specimen is kept at the Rancho Santa Ana Botanical Garden.

Since the discovery of the *Senecio* in Chula Vista, the specimen has been examined at the San Diego Natural History Museum where it was determined by Jon Rebman, the Curator of Botany, to have not been previously detected in San Diego County. The specimen was then sent to Ted Barkley, a North American *Senecio* expert, who was also unfamiliar with this particular species. The plant has been examined by botanists at the Missouri and New York Botanical Gardens and is currently under examination at the Kew Botanical Gardens in England. There is a potential that this species will be declared an undescribed, new species.

#### 4.1.6 Invasive Exotic Plant Species

The major invasive exotic threats to native plant species in the Center City Preserve Area are annual grasses, including bromes, wild oats, ryegrass (*Lolium* sp.), other non-native annual grasses, and black mustard. These species quickly establish populations in disturbed areas and the interface of disturbed areas and native habitat. Annual grasses and black mustard invade native habitats and replace the native herbaceous understory species. At the end of the growing season of these non-natives, they dry out and provide fuel for wildfires.

Pampas grass is a serious threat to native plants throughout PMA 1. Wind disperses this species' seed and it will rapidly outcompete native plants for resources. Subunit 1-1c has been invaded by a large population of pampas grass and a large number of pampas grass individuals are scattered throughout Rice Canyon in subunit 1-2b. All other subunits have been invaded by pampas grass to some degree.

Star-thistle, a ubiquitous weed that occurs throughout PMA 1, is a serious threat to native species.

Other invasive plant species pose a threat to native plant species, habitat structure, and wildlife species populations. These species include sweet fennel (*Foeniculum vulgare*), ice plant (*Carpobrotis edulis*), tamarisk (*Tamarix* sp.), hollow-stem asphodel (*Asphodelus fistulosus*), and filaree (*Erodium* sp.).

Figures 5d-5f and 5j illustrate the locations of invasive exotic species identified in PMA 1.

#### **4.1.7 Other Survey Results**

##### **4.1.7.1 Roadkill**

No roadkill was observed along any of the roadways adjacent to the subunits of PMA 1 during any of the surveys conducted.

##### **4.1.7.2 Drainages, Channels, Culverts, and Detention Basins**

Figures 5a-5m indicate culverts, detention basins, and maintenance access roads mapped in PMA 1. A detention basin is in subunit 1-1a where the coastal sage scrub and maritime succulent scrub interfaces. Culverts connect subunits 1-1c and 1-1d at the southern end. A culvert is in the coastal sage scrub in subunit 1-1d; this culvert likely drains runoff and storm water from the residential development to the south. A culvert in subunit 1-2a likely drains runoff and storm water from the residential development to the north. Two culverts are in the southern edge of subunit 1-2a near the freshwater marsh vegetation. A culvert connects subunits 1-2a and 1-2b under Rancho del Rey Parkway. The culverts that connect subunits are constructed to convey minor water flow. They would be large enough for small mammals, amphibians, and reptiles to pass through when dry or nearly dry. Medium-sized mammals, such as raccoon, fox, coyote, and bobcat could potentially use some of the larger culverts. Large mammals, such as southern mule deer and mountain lion, are not expected to use these culverts as movement corridors.

##### **4.1.7.3 Wildlife Movement Corridor**

Subunits in PMA 1 are situated sufficiently close together to allow for unimpeded bird movement between subunits. However, in many instances, roads that separate subunits likely decrease the number of terrestrially mobile animals that successfully cross from one subunit to another. Certain major roads, Otay Lakes Road, East H Street, Corral Canyon Road, and Telegraph Canyon Road, are not expected to provide significant pedestrian wildlife movement due to traffic volume and/or physical barriers such as cement lane dividers. Figures 5c-5d, 5f-5h, and 5k identify potential wildlife movement corridors or pathways in PMA 1. As mentioned above, the culverts identified are not large enough to support large mammals, but could potentially allow movement of smaller mammals, amphibians, and reptiles.



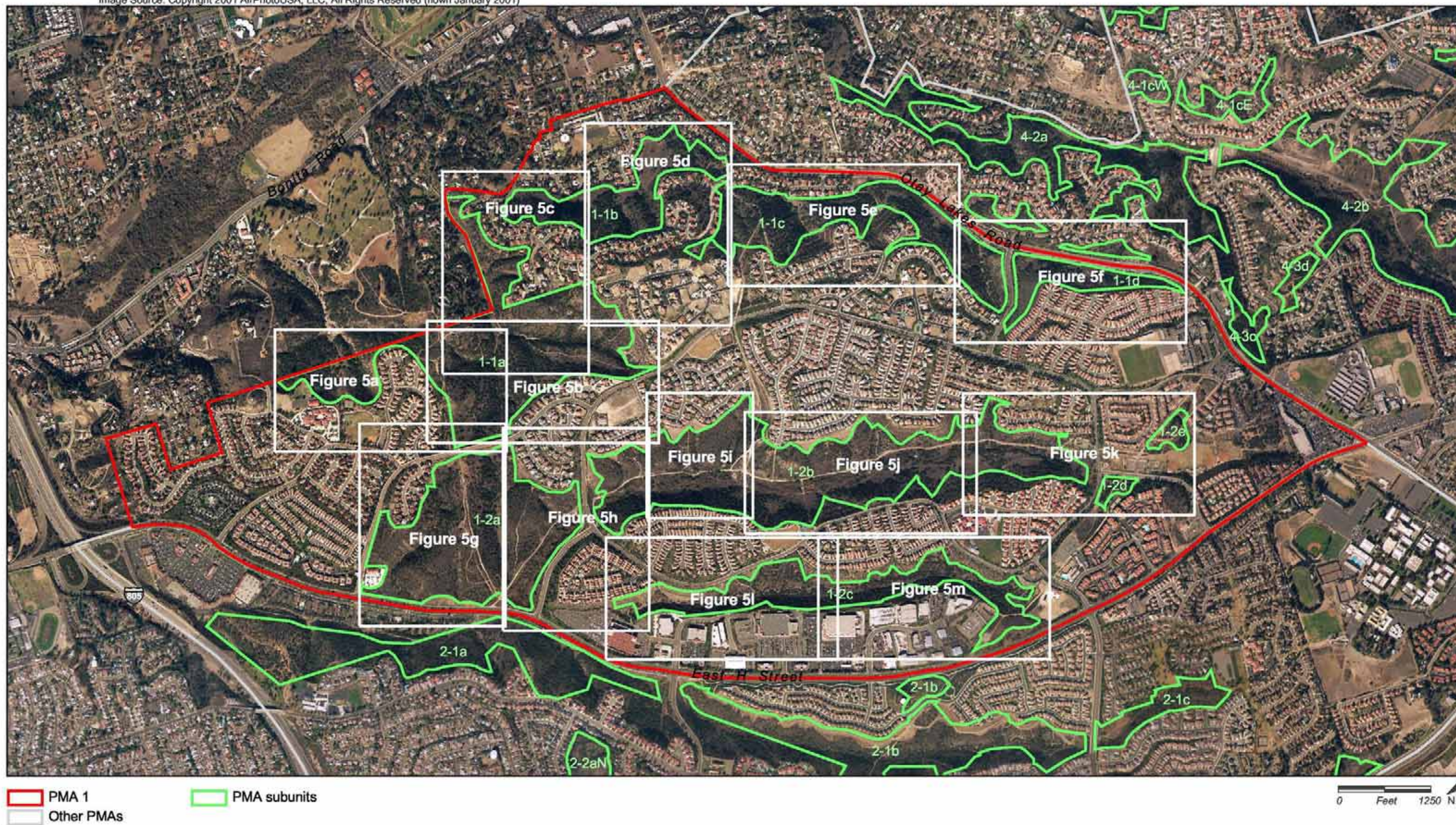
#### 4.1.7.4 Dumping, Trespassing, and Vagrant Encampments

Two locations of dumping were mapped in PMA 1 and are shown on Figures 5a and 5g. City of Chula Vista workers were observed dumping landscape clippings over the side of the canyon near the tennis courts and park off Hidden Vista Drive. Trash lines the edges of the established trail that runs north-south in subunit 1-2a.



**FIGURE 4**  
**Preserve Management**  
**Area 1 (PMA 1)**





**FIGURE 5**  
Existing Biological Resources  
PMA 1 Locator Map





- PMA boundary
- PMA subunit
- 10-foot topographic contour lines
- Existing trail

- Vegetation communities (Holland code)**
- Maritime succulent scrub (32400)
  - Coastal sage scrub (32500)
  - Disturbed (11300)

- Sensitive plant locations**
- San Diego barrel cactus
  - San Diego barrel cactus
  - Palmer's grappling hook
  - Palmer's grappling hook
  - Snake cholla
  - South coast saltbush
  - South coast saltbush

- Sensitive animal locations**
- Coastal California gnatcatcher
  - Coastal California gnatcatcher (nesting)
  - Coastal California gnatcatcher nest

- Potential wildlife crossing
- Desiltation basin
- X Dumping area

0 Feet 200 N

RECON

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fig5a (blo1) 06/02/08

**FIGURE 5a**  
**Existing Biological Resources**  
**PMA 1 Map A**





**PMA boundary**  
**PMA subunit**  
**10-foot topographic contour lines**  
**Existing trail**  
**Maintenance access road**

**Vegetation communities (Holland code)**  
**Maritime succulent scrub (32400)**  
**Coastal sage scrub (32500)**  
**Native grassland (42100)**  
**Disturbed (11300)**

**Sensitive plant locations**  
**D** San Diego barrel cactus  
**J** Otay tarplant  
**K** Palmer's grappling hook  
**M** San Diego bur-sage  
**Q** Snake cholla  
**R** South coast saltbush

**Sensitive animal locations**  
**Coastal California gnatcatcher**  
**Coastal California gnatcatcher nest**  
**Potential wildlife crossing**

**Desiltation basin**

0 Feet 200 N

**FIGURE 5b**  
**Existing Biological Resources**  
**PMA 1 Map B**



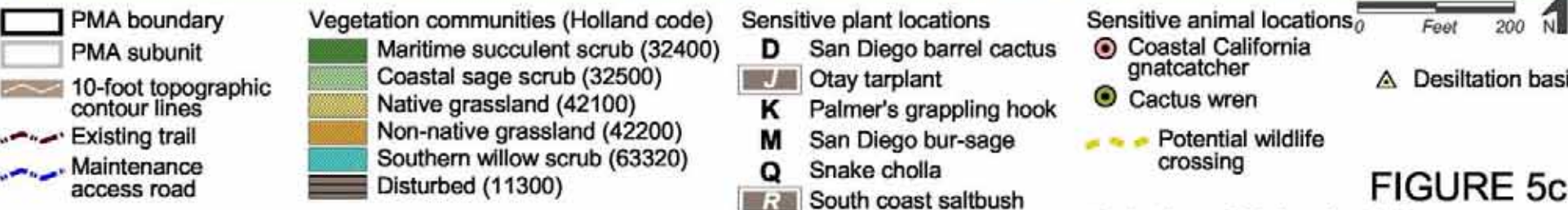


FIGURE 5c  
Existing Biological Resources  
PMA 1 Map C



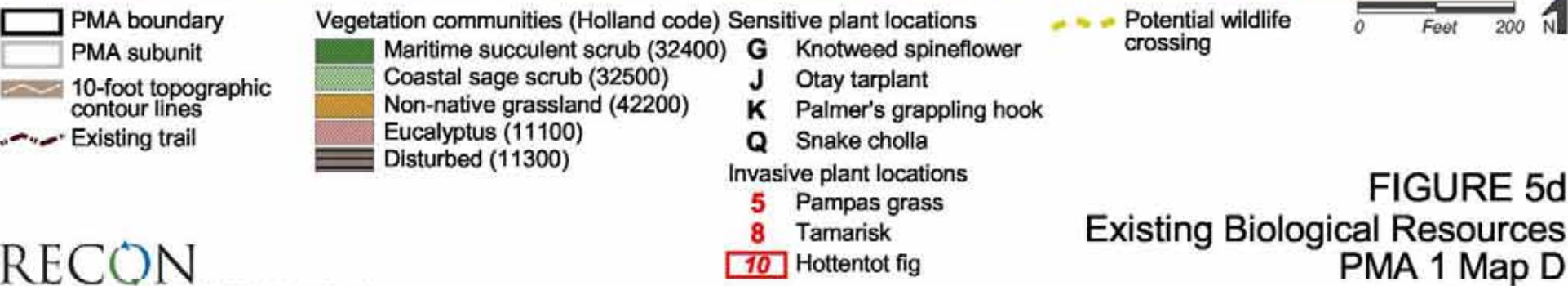


FIGURE 5d  
Existing Biological Resources  
PMA 1 Map D





- PMA boundary
- PMA subunit
- 10-foot topographic contour lines
- Existing trail

- Vegetation communities (Holland code)**
- Coastal sage scrub (32500)
  - Disturbed coastal sage scrub (32500)
  - Native grassland (42100)

- Sensitive plant locations**
- CAJ Small-flowered morning glory/  
Otay tarplant
  - J Otay tarplant
  - J Otay tarplant
  - K Palmer's grappling hook

- Invasive plant locations**
- 5 Pampas grass
  - 5 Pampas grass

0 Feet 200 N

**FIGURE 5e**  
Existing Biological Resources  
PMA 1 Map E





PMA boundary  
 PMA subunit  
 10-foot topographic contour lines  
 Existing trail

**Vegetation communities (Holland code)**  
 Maritime succulent scrub (32400)  
 Coastal sage scrub (32500)  
 Disturbed coastal sage scrub (32500)  
 Native grassland (42100)  
 Native grassland/Clay lens (42100)  
 Freshwater marsh (52400)  
 Disturbed (11300)

**Sensitive plant locations**  
 Small-flowered morning glory/  
 Otay tarplant  
 Otay tarplant  
 Variegated dudleya

**Invasive plant locations**  
 Pampas grass  
 Pampas grass  
 Sweet fennel  
 Tamarisk  
 Tree tobacco  
 Hottentot fig

**Sensitive animal locations**  
 Coastal California gnatcatcher  
 Coastal California gnatcatcher (nesting)  
**Predator locations**  
 Fox scat

Potential wildlife crossing  
 Culvert

0 Feet 200 N

RECON

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fig5f (blo1) 06/02/06

**FIGURE 5f**  
**Existing Biological Resources**  
**PMA 1 Map F**





PMA boundary

PMA subunit

10-foot topographic contour lines

Existing trail

Maintenance access road

Vegetation communities (Holland code)

Maritime succulent scrub (32400)

Coastal sage scrub (32500)

Disturbed coastal sage scrub (32500)

Sensitive plant locations

D

San Diego barrel cactus

D

San Diego barrel cactus

Q

Snake cholla

R

South coast saltbush

Sensitive animal locations

Cactus wren

Coastal California gnatcatcher

Coastal California gnatcatcher (nesting)

Red diamond rattlesnake

San Diego horned lizard scat

Predator locations

Coyote

Potential wildlife crossing

Culvert

Desiltation basin

Dumping area

0

Feet

200

N

FIGURE 5g

Existing Biological Resources

PMA 1 Map G

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fig5g (bko1) 06/02/08





PMA boundary

PMA subunit

10-foot topographic contour lines

Existing trail

Maintenance access road

Maritime succulent scrub (32400)

Coastal sage scrub (32500)

Freshwater marsh (52400)

Southern willow scrub (63320)

Potential wildlife crossing

Culvert

Desiltation basin

D

San Diego barrel cactus

G

Long-spined spineflower

Q

Snake cholla

R

South coast saltbush

P

Senecio species

P

Senecio species

3

Croceum iceplant

Sensitive plant locations

Sensitive animal locations

Coastal California gnatcatcher

Coastal California gnatcatcher (nesting)

Cooper's hawk

San Diego horned lizard scat

Yellow warbler

Noteworthy plant locations

Invasive plant locations

0

Feet

200

N

RECON

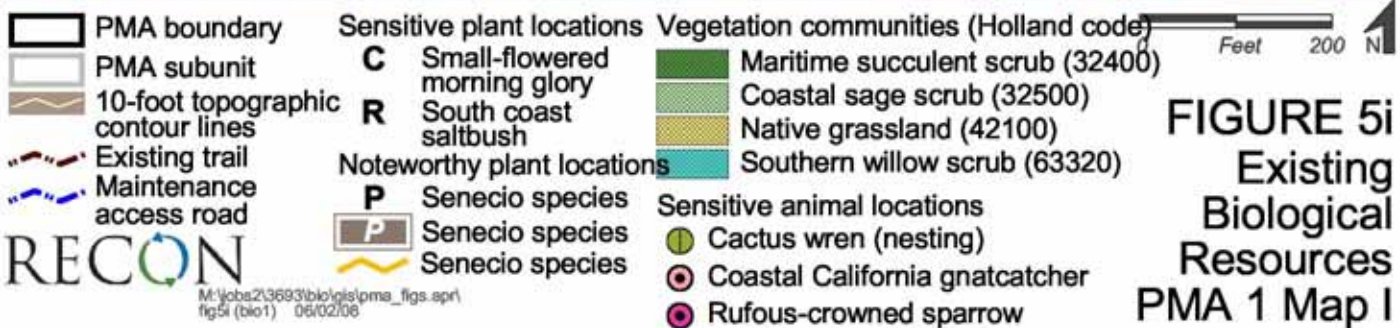
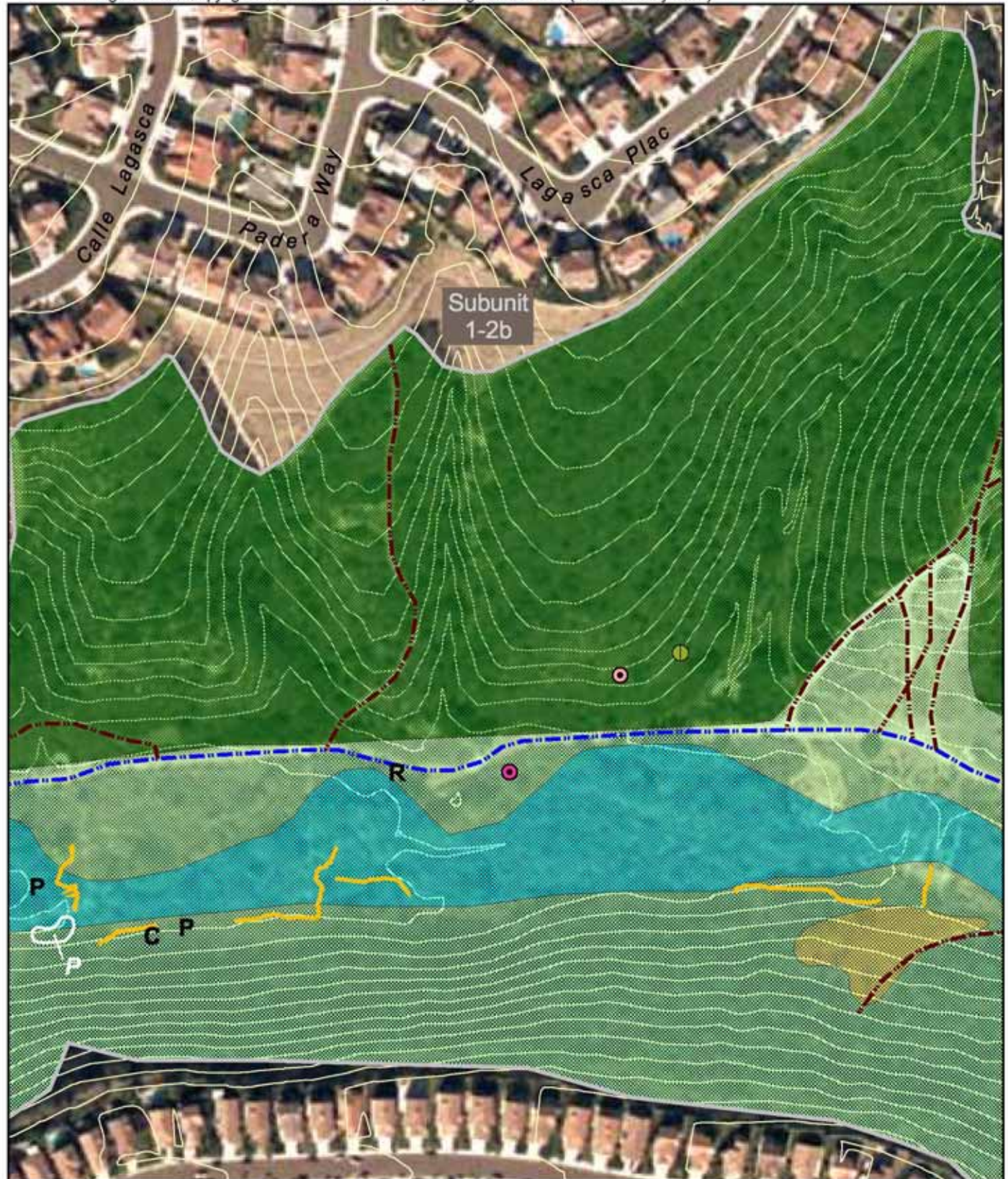
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fig5h (bio1) 06/02/08

FIGURE 5h

Existing Biological Resources

PMA 1 Map H









PMA boundary  
 PMA subunit  
 10-foot topographic contour lines  
 Existing trail  
 Maintenance access road  
**RECON**

**Vegetation communities (Holland code)**  
 Maritime succulent scrub (32400)  
 Coastal sage scrub (32500)  
 Native grassland (42100)  
 Southern willow scrub (63320)

**Sensitive plant locations**  
**C** Small-flowered morning glory  
**C/J** Small-flowered morning glory/Otay tarplant  
**J** Otay tarplant  
**K** Palmer's grappling hook  
**O** San Diego thornmint  
**T** Variegated dudleya

**Noteworthy plant locations**  
**P** Senecio species  
 Senecio species

**Invasive plant locations**  
**2** Artichoke thistle

**Sensitive animal locations**  
 Cactus wren  
 Coastal California gnatcatcher  
 Yellow-breasted chat

0 Feet 200 N

**FIGURE 5j**  
**Existing Biological Resources**  
**PMA 1 Map J**





- PMA boundary
- PMA subunit
- 10-foot topographic contour lines
- Existing trail
- Maintenance access road

RECON

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fig5k (bio) 06/02/08

- Vegetation communities (Holland code)**
- Maritime succulent scrub (32400)
  - Coastal sage scrub (32500)
  - Native grassland (42100)
  - Native grassland/Clay lens (42100)
  - Southern willow scrub (63320)
  - Disturbed (11300)

- Sensitive plant locations**
- C Small-flowered morning glory
  - C/J Small-flowered morning glory/Otay tarplant
  - D San Diego barrel cactus
  - J Otay tarplant
  - J Otay tarplant

- K Palmer's grappling hook
- O San Diego thornmint
- O San Diego thornmint
- T Variegated dudleya

- Sensitive animal locations**
- Cactus wren
  - Coastal California gnatcatcher

- Potential wildlife crossing

0 Feet 200 N

**FIGURE 5k**  
Existing Biological Resources  
PMA 1 Map K





- |                                   |                                       |                                |
|-----------------------------------|---------------------------------------|--------------------------------|
| PMA boundary                      | Vegetation communities (Holland code) | Sensitive animal locations     |
| PMA subunit                       | Coastal sage scrub (32500)            | Coastal California gnatcatcher |
| 10-foot topographic contour lines |                                       |                                |
| Existing trail                    |                                       |                                |

0 Feet 200 N

FIGURE 5I  
Existing Biological Resources  
PMA 1 Map L





- |                                   |  |                                   |
|-----------------------------------|--|-----------------------------------|
| PMA boundary                      | <b>Vegetation communities (Holland code)</b> | <b>Sensitive animal locations</b> |
| PMA subunit                       | Coastal sage scrub (32500)                   | Coastal California gnatcatcher    |
| 10-foot topographic contour lines |  | San Diego horned lizard scat      |
| Existing trail                    |  | White-tailed kite                 |
| Maintenance access road           |  |                                   |

0 Feet 200 N

RECON

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fig5m (bio) 06/02/08

**FIGURE 5m**  
Existing Biological Resources  
PMA 1 Map M



## **4.2 PMA 2**

PMA 2 consists of nine subunits totaling 253.2 acres. All figures pertaining to PMA 2 are located at the end of this section, in numerical order. Figure 6 presents an overview of the subunits and Figure 7 is the locator map for Figures 7a-7k.

### **4.2.1 Site Description**

#### **4.2.1.1 Topography**

The subunits in PMA 2 contain mesas and canyons cut by arroyos that feed into Rice Canyon in the northeast and Telegraph Canyon along the south. A central mesa extends from the western end of the area through the center of the area, with another finger extending along the northern part of the area. Elevation increases from 100 feet AMSL at the northwestern corner of the PMA to 500 feet in the western mesa. All streams in the area are intermittent or ephemeral (U.S. Geological Survey 1955, 1967a).

#### **4.2.1.2 Soils**

PMA 2 contains the following soil types: Linne clay loam, Olivenhain cobbly loam, Diablo clay, Diablo-urban complex, and Salinas clay loam. Linne clay loam soils are moderately deep, well-drained soils found on the north- and south-facing hillsides throughout the area. Olivenhain cobbly loams have brown and red-brown topsoil and are found on the hilltops and mesas in the center and northern part of the area. Diablo and Diablo-urban soils occupy the broad mesa on the western end of the site. Salinas clay loam soils are well-drained and moderately well-drained soils formed in sediments washed down from the surrounding hills. Salinas soils are found along Telegraph and Rice Canyons at the southern and northeastern perimeter of the area (USDA 1973).

### **4.2.2 Botanical Resources**

There are seven vegetation communities and land cover types present in PMA 2: maritime succulent scrub, Diegan coastal sage scrub, mule fat scrub, freshwater marsh, southern willow scrub, disturbed, and developed. The acreages of these vegetation communities in PMA 2 are shown in Table 3. Vegetation communities mapped on-site are shown on Figures 7a-7k. The following text provides detailed descriptions of the vegetation communities specific to PMA 2. See Attachment 3 for complete general vegetation community descriptions.

Plants historically observed within PMA 2 are listed in Attachment 4. Attachment 13 provides a list of plants identified during the current surveys in each subunit of PMA 2.

**TABLE 3**  
**VEGETATION COMMUNITIES AND**  
**LAND COVER TYPES ON PMA 2**

Vegetation Type	Acres
Maritime succulent scrub	3.8
Diegan coastal sage scrub	225.5
Southern willow scrub	6.0
Mule fat scrub	0.2
Freshwater marsh	1.0
Disturbed	14.1
Developed	2.6
Total for PMA 2	253.2

#### 4.2.2.1 Maritime Succulent Scrub (3.8 acres) (Holland Code 32400)

This vegetation community in PMA 2 is generally dense and dominated by jojoba and succulent species such as shore cactus, coast cholla, snake cholla, and Mohave yucca. Maritime succulent scrub provides quality habitat for sensitive wildlife species such as the coastal cactus wren. Maritime succulent scrub average shrub height ranges from three feet in open or sage scrub dominated areas to eight feet in woody species or coast cholla dominated areas.

#### 4.2.2.2 Diegan Coastal Sage Scrub (225.5 acres) (Holland Code 32500)

Within PMA 2, this vegetation community is considered to be high-quality habitat for a number of species that reside within each subarea. This vegetation community is dominated by species such as California sagebrush, California buckwheat, broom baccharis, common encelia, coast goldenbush, lemonadeberry, matchweed (*Gutierrezia sarothrae*), jojoba, and San Diego County viguiera (*Viguiera laciniata*). Areas dominated by California sagebrush and California buckwheat range in average shrub height from three to six feet. These areas tend to occur on south-facing slopes. Lemonadeberry dominated areas average shrub height ranges from 8 to 15 feet. These areas are generally on the north-facing slopes.

#### 4.2.2.3 Southern Willow Scrub (6.0 acres) (Holland Code 63320)

In PMA 2, southern willow scrub is primarily dominated by western sycamore, western cottonwood, Gooding's black willow, arroyo willow, and red willow. Southern willow scrub average vegetation height varies depending on the age and type of tree species present. In general, vegetation height averages 30 feet, and can be higher for more mature stands and/or those dominated by western sycamores and western cottonwoods.

#### 4.2.2.4 Mule Fat Scrub (0.2 acre) (Holland Code 63310)

A small strip of this vegetation community dominated by mule fat (*Baccharis salicifolia*) is present in the drainage along Paseo Ladera in subunit 2-2c. Mule fat scrub average shrub height ranges from six to eight feet.

#### 4.2.2.5 Freshwater Marsh (1.0 acres) (Holland Code 52400)

Freshwater marsh vegetation occurs in strips that abut southern willow scrub vegetation in the drainages of subunits 2-1b and 2-1c. This vegetation is dominated by cattails and provides suitable foraging and nesting habitat for amphibian and some riparian bird species. The average vegetation height of a freshwater marsh is approximately five to seven feet.

#### 4.2.2.6 Disturbed (14.1 acres) (Holland Code 11300)

Disturbed habitat found in PMA 2 includes trails and open areas that have been cleared of vegetation. These disturbed areas have a mixture of native and non-native vegetation including California buckwheat, broom baccharis, wild oat, ripgut grass, star-thistle, and filaree.

The City of Chula Vista and SDG&E maintain access roads in the Preserve. The access roads are generally wider than pedestrian trails to allow for vehicular access. Specifically, an SDG&E transmission line traverses the center of PMA 2 in a southwest to northeast direction. Associated access roads for the transmission line are in subunits 2-1b, and 2-2b.

#### 4.2.2.7 Developed (2.6 acres) (Holland Code 12000)

An area in subunit 2-1b is mapped as developed. The area encompasses part of the residential neighborhood north of the subunit.

### **4.2.3 Zoological Resources**

Attachment 8 provides a complete list of all wildlife species present in PMAs 1-4. Attachment 14 provides a list of species present within each subunit of PMA 2. Wildlife observed to date includes 17 butterfly species, 4 reptile species, 65 bird species, and 7 mammal species.

#### 4.2.3.1 Amphibians

No amphibian species were observed in PMA 2 during surveys. Common species expected to occur in the drainages include Pacific treefrog and bullfrog. The garden slender salamander (*Batrachoseps major*) has the potential to occur in the uplands adjacent to the drainages.

#### 4.2.3.2 Reptiles

Four reptile species have been detected within PMA 2: western fence lizard, San Diego horned lizard, Belding's orange-throated whiptail, and San Diego gopher snake. San Diego horned lizard and Belding's orange-throated whiptail are discussed in the Sensitive Species section.

#### 4.2.3.3 Birds

Bird species commonly observed in the Diegan coastal sage scrub include western scrub-jay, wrentit, California towhee, spotted towhee, song sparrow, and California thrasher.

Riparian vegetation communities provide habitat for many resident and migratory bird species. Species observed within the southern willow scrub and mule fat scrub include yellow-breasted chat, house wren, lesser goldfinch, orange-crowned warbler (*Vermivora celata*), yellow-rumped warbler, song sparrow, and Pacific slope flycatcher (*Empidonax difficilis*).

Typical birds seen in disturbed environments include black phoebe, European starling, mourning dove, northern mockingbird, and house finch.

#### 4.2.3.4 Mammals

Common mammal species observed and detected in PMA 2 include desert cottontail, California ground squirrel, woodrat, coyote, common raccoon, and southern pocket gopher (*Thomomys umbrinus* [= *bottae*]). These are likely to be present in any of the vegetation communities and habitats found within PMA 2.

### 4.2.4 Sensitive Species

For purposes of this report, a species will be considered sensitive if it is: (1) listed by state or federal agencies as threatened or endangered or is a candidate or proposed for such listing; (2) considered rare, endangered, or threatened by the state of California and listed in the NDDB (2003a, 2003b, 2003c, 2003d, 2003e); (3) a narrow endemic or covered species in the City of Chula Vista MSCP Subarea Plan (City of Chula Vista 2003); (4) on Lists 1B or 2 of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (2001); or (5) considered sensitive by local conservation organizations or specialists. Noteworthy plant species are those that are on Lists 3 or 4 of the CNPS *Inventory*. Sensitive habitat types are those identified by NDDB (State of California 2003e) and Holland (1986). Assessments for the potential occurrence of sensitive or noteworthy species are based upon known ranges and habitat preferences for the species and species occurrence records from the NDDB.

Attachment 5 lists the sensitive plant species known to occur or with potential to occur in the PMAs. Attachment 6 lists sensitivity status codes. Attachment 7 provides complete general descriptions of all sensitive plant species discussed in this document. Attachment 9 lists the sensitive animal species known to occur or with potential to occur in the PMAs. Attachment 10 provides complete general descriptions of all sensitive wildlife species discussed in this document. Descriptions include sensitivity status, life history, and range. Figures 7a-7k map the locations of sensitive plants and wildlife detected during the current surveys.

#### 4.2.4.1 Sensitive Plant Species

Twelve listed, sensitive, and rare plant species are present in PMA 2. Several other sensitive plant species are historically known from the PMA or are known to occur in the vicinity, but were not observed during surveys. Many of these species, such as shrubs, would have been easily observed during plant surveys. Because they were not observed, they are considered to have a low potential for occurrence or are not expected to occur. In other cases, species that are perennial or annual herbs may not have been detected due to timing constraints. Every PMA subunit was surveyed at least once; PMA subunits with an expectation of supporting rare plants were resurveyed for a minimum of two times to account for seasonal differences. Because some PMA subunits were only surveyed once during the year this could have led to the smaller herbaceous species not being detected on these subunits even though they may be present in small numbers. These species are discussed below.

Plant counts are provided for most of the sensitive species and the highest priority for conducting plant counts was for state and federally listed and MSCP covered species, including narrow endemics. In some cases, counts were not made for species that are regionally considered sensitive by CNPS, such as San Diego County viguiera or clay bindweed, because the level of effort required to do so would have diminished our ability to accomplish higher priority counts for listed and covered species.

#### **Observed**

**Palmer sagewort (*Artemesia palmeri*).** This perennial shrub is a CNPS List 2 species. This species is present in subunit 2-1b.

**South coast saltbush (*Atriplex pacifica*).** This prostrate perennial is a CNPS List 1B species. This species is present in subunits 2-1b and 2-2c.

**Golden-spined cereus (*Bergerocactus emoryi*).** This perennial cactus is a CNPS List 2 species. A few small populations were observed in subunit 2-1b, mainly in Diegan coastal sage scrub habitat.

**Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*).** This annual is a CNPS List 1B species. Five individuals of this species are present in subunit 2-2c growing among fringed spineflower (*Chorizanthe fimbriata*) and south coast saltbush.

**Snake cholla (*Cylindropuntia californica* var. *californica* [= *Opuntia californica* var. *californica*])—a narrow endemic covered under the MSCP.** This perennial cactus is a MSCP covered species, is considered a narrow endemic, and a CNPS List 1B species. A few individuals are scattered throughout the Diegan coastal sage scrub in subunits 2-1a, 2-1b, 2-2aN, 2-2b, 2-2c, and 2-2dW.

**Otay tarplant (*Deinandra conjugens* [= *Hemizonia conjugens*])—a narrow endemic covered under the MSCP.** This annual is federally threatened, state listed as endangered, and is a CNPS List 1B species. A population of 2,500 individuals is present in subunit 2-2c.

**Cliff spurge (*Euphorbia misera*).** This succulent perennial shrub is a CNPS List 2 species. A small population of 15 individuals is present in the Diegan coastal sage scrub of subunit 2-1a.

**San Diego barrel cactus (*Ferocactus viridescens*)—an MSCP covered species.** This succulent perennial is a CNPS List 2 species. Thirty-five San Diego barrel cactuses are present in subunit 2-1b. The population grows on the south-facing slopes of the canyon adjacent to mitigation sites by the public access roads.

**Palmer's grappling hook (*Harpagonella palmeri* var. *palmeri*).** This annual herb is a CNPS List 2 species. A few individuals are present in subunit 2-2c, in Diegan coastal sage scrub.

**San Diego sand aster (*Lessingia filaginifolia* var. *filaginifolia* [= *Corethrogyne filaginifolia* var. *incana*]).** This perennial herb is a CNPS List 1B species. Small, scattered populations of San Diego sand aster are present in subunits 2-1a and 2-1b, typically in Diegan coastal sage scrub.

**San Diego County viguiera (*Viguiera laciniata*).** This perennial shrub is a CNPS List 4 species. This species is present in most PMA 2 subunits with the exception of subunits 2-2b and 2-2dE.

## **Not Observed**

**San Diego thornmint (*Acanthomintha ilicifolia*).** This annual is federally listed as threatened, state listed as endangered, a CNPS List 1B species, and is a narrow endemic covered under the MSCP. This plant species has been historically reported near PMA 2 (State of California 2003e). The suitable habitat has been disturbed by development. There is a low potential for this species to occur.

**California adolphia (*Adolphia californica*).** This perennial shrub is a CNPS List 2 species. California adolphia was not detected on any of the subunits of PMA 2; though suitable habitat is present on the clay-soil slopes. Although not observed, a few scattered individuals may not have been detected in the dense matrix of coastal sage scrub.

**San Diego bur-sage (*Ambrosia chenopodifolia*).** This perennial shrub is a CNPS List 2 species. There is a low potential for San Diego bur-sage to occur on PMA 2.

**San Diego ambrosia (*Ambrosia pumila*).** This perennial herb is a federally threatened species and considered to be an MSCP narrow endemic species. San Diego ambrosia has a low potential to occur in the drainages of PMA 2. This species prefers sandy alluvium in creek beds, seasonally dry drainages, and floodplains. Salinas clay loam soils are present in these areas in PMA 2.

**Orcutt's brodiaea (*Brodiaea orcuttii*).** This perennial herb is a CNPS List 1B species. This plant species is generally associated with vernal pool areas and the adjacent uplands. There is a low potential for Orcutt's brodiaea to occur due to the lack of suitable habitat.

**Orcutt's bird's-beak (*Cordylanthus orcuttianus*).** This annual herb is a CNPS List 2 species. Orcutt's bird's beak has a low potential to occur.

**Variegated dudleya (*Dudleya variegata*).** This small succulent perennial is a narrow endemic covered under the MSCP and a CNPS List 1B species. There is moderate potential for this species to occur in the native grassland areas where needlegrass and soap plant (*Chlorogalum parviflorum*) grow together, but small populations may have escaped detection.

**Palmer's ericameria (*Ericameria palmeri* var. *palmeri* [= *Haplopappus palmeri* ssp. *palmeri*]).** This perennial shrub is an MSCP covered species and is considered to be a narrow endemic. Palmer's ericameria has a low potential to occur. The preferred habitat contains sandy loam soils, as opposed to the clay and clay loams on PMA 2.

**San Diego marsh elder (*Iva hayesiana*).** This perennial shrub is a CNPS List 2 species. There is a low potential for this species to occur in the ephemeral drainage habitats in PMA 2.

**Spiny rush (*Juncus acutus* ssp. *leopoldii*).** This is a CNPS List 4 species. There is a low potential for this species to occur in the ephemeral drainage habitats in PMA 2, but the species is likely to have been detected if present.

**San Diego goldenstar (*Muilla clevelandii*).** This perennial herb is a CNPS List 1B species. San Diego goldenstar typically grows in gravelly clay loam soils. There is a moderate potential for this species to occur, but common goldenstar was observed in all

areas that appeared to have suitable habitat for San Diego goldenstar. Nearby populations occur on Otay Mesa, Proctor Valley Road, and San Miguel Mountain.

**Spreading navarretia (*Navarretia fossalis*).** This annual herb is a federally threatened species, an MSCP covered species, and is considered to be a narrow endemic. Suitable vernal pool habitat is not present in PMA 2 and this species is not expected to occur.

**Otay mesa mint (*Pogogyne nudiuscula*).** This annual herb is a federal and state endangered species, an MSCP covered species, and is considered to be a narrow endemic. Suitable vernal pool habitat is not present in PMA 2 and this species is not expected to occur.

**Nuttall's scrub oak (*Quercus dumosa*).** This perennial shrub is a CNPS List 1B species. This species was not detected in PMA 2 during the current surveys and there is a low potential for it to occur in the more densely vegetated north-facing slopes.

**Munz's sage (*Salvia munzii*).** This perennial shrub is a CNPS List 2 species. This species has a low potential to occur in the coastal sage scrub habitat in PMA 2.

#### 4.2.4.2 Sensitive Amphibians

No sensitive amphibians were detected during surveys. One sensitive species with the potential to occur is the western spadefoot. This species is discussed below.

#### **Not Observed**

**Western spadefoot (*Spea hammondi*).** The western spadefoot is a CDFG species of special concern. There is a low potential for this species to be present in the riparian and wetland habitat in PMA 2.

#### 4.2.4.3 Sensitive Reptiles

Two sensitive species, San Diego horned lizard and Belding's orange-throated whiptail, were observed in PMA 2. A number of other sensitive species have a potential to occur. These species are discussed below.

#### **Observed**

**Belding's orange-throated whiptail (*Aspidoscelis* [= *Cnemidophorus*] *hyperythrus beldingi*)—an MSCP covered species.** Belding's orange-throated whiptail is a CDFG species of special concern. Belding's orange-throated whiptail was observed in subunit 2-2aN during surveys. Suitable scrub and streamside habitat is present in several subunits where this species is also expected to occur.



**San Diego horned lizard (*Phrynosoma coronatum blainvillii*)—an MSCP covered species.** This species is a CDFG species of special concern. San Diego horned lizard was detected by scat in subunit 2-2aN during the current surveys. This species has a low potential to occur in the coastal sage scrub habitat throughout PMA 2, as its numbers are declining due to edge effects, likely including predation by domestic cats. Prior to urban development, this species would have been common on the mesa tops of PMA 2.

#### **Not Observed**

**Coronado skink (*Eumeces skiltonianus interparietalis*).** This species is a CDFG species of special concern. There is a moderate potential for this species to occur in PMA 2.

**Silvery legless lizard (*Anniella pulchra pulchra*).** This species is a CDFG species of special concern. This species has a moderate potential to occur in PMA 2.

**Coastal western whiptail (*Cnemidophorus tigris multiscutatus*).** This species has a moderate potential to occur in PMA 2.

**Coast patch-nosed snake (*Salvadora hexalepis virgultea*).** The coast patch-nosed snake is a CDFG species of special concern. This species has a moderate potential to occur in PMA 2.

**Two-striped garter snake (*Thamnophis hammondi*).** The two-striped garter snake is a CDFG species of special concern. This species has a moderate potential to occur near the drainage on PMA 2.

**Red diamond rattlesnake (*Crotalus exsul*).** The red diamond rattlesnake is a CDFG species of special concern. This species has a moderate potential to occur in the scrub habitat in PMA 2.

#### **4.2.4.4 Sensitive Birds**

Eleven sensitive bird species were observed or detected in PMA 2. These species, and other sensitive species with the potential to occur, are discussed below.

#### **Observed**

**White-tailed kite (*Elanus leucurus*).** The white-tailed kite is a CDFG fully protected species. This species was observed flying over subunits 2-1a and 2-2b; suitable foraging and nesting habitat is present throughout this PMA.

**Northern harrier (*Circus cyaneus hudsonius*)—an MSCP covered species.** The northern harrier is a CDFG species of special concern. Northern harriers were observed

flying over subunit 2-1b. Potential foraging habitat is present throughout PMA 2; there is a moderate potential for this species to nest along low scrub and concealed areas such as black mustard patches.

**Sharp-shinned hawk (*Accipiter striatus*).** This species is a CDFG species of special concern. A sharp-shinned hawk was observed in subunit 2-1b. Foraging habitat is present in all of the PMAs. This species is a rare breeder in San Diego County (Unitt 1984), and is not expected to nest within PMA 2.

**Cooper's hawk (*Accipiter cooperii*)—an MSCP covered species.** The Cooper's hawk is a CDFG species of special concern. A Cooper's hawk was observed in subunits 2-1c, 2-2aN, and 2-2b. Individuals exhibiting nesting behavior were observed in subunit 2-1b. Suitable foraging and nesting habitat is present in the southern willow scrub habitat and dense stands of lemonadeberry shrubs.

**Golden eagle (*Aquila chrysaetos*)—an MSCP covered species.** The golden eagle is a CDFG species of special concern. A golden eagle was observed flying and perching in several subunits of PMA 2. It is expected to have been the same individual visiting each subunit. Foraging habitat is present though the potential for nesting is low. The closest known breeding location is to the northeast at San Miguel Mountain.

**Coastal cactus wren (*Campylorhynchus brunneicapillus couesi*)—an MSCP covered species.** The coastal cactus wren is a CDFG species of special concern. A coastal cactus wren and nest were observed in the coastal sage scrub in subunit 2-1b.

**Coastal California gnatcatcher (*Polioptila californica californica*)—an MSCP covered species.** The coastal California gnatcatcher is a federally listed threatened species and a CDFG species of special concern. Coastal California gnatcatchers were observed in most PMA 2 subunits. Nesting evidence was observed in subunits 2-1a, 2-1b, and 2-2aN, though no nests were directly observed. For the purposes of this report, a 'gnatcatcher location' may represent either an individual or pair of gnatcatchers and in general, represents a probable territory. A total of 29 locations were identified during the current surveys. Three gnatcatcher locations were observed in subunit 2-1a; one of which includes a pair exhibiting nesting behavior (i.e., carrying nesting material). Thirteen gnatcatcher locations were identified in subunit 2-1b; four of which include a pair exhibiting nesting behavior. Two coastal California gnatcatcher locations were observed in subunit 2-1c, one of which includes a pair exhibiting nesting behavior. One gnatcatcher location was identified in subunit 2-2aN. Three gnatcatcher locations were identified in subunit 2-2b. Five gnatcatcher locations were mapped in subunit 2-2c, and two locations were mapped in subunit 2-2dW. Additionally, two gnatcatcher locations were identified and mapped outside of the preserve lands (see Figures 5b and 5m). Suitable nesting habitat is available in all of the subunits.

**Yellow warbler (*Dendroica petechia*).** The yellow warbler is a CDFG species of special concern. The yellow warbler was observed in subunits 2-1a, 2-1c, 2-2b, 2-2c, and 2-2dE. These individuals are expected to breed in these locations due to the quality of suitable southern willow scrub habitat present.

**Yellow-breasted chat (*Icteria virens*).** The yellow-breasted chat is a CDFG species of special concern. Yellow-breasted chat was detected by vocalization in subunit 2-1b and 2-2b. This species is expected to breed in the southern willow scrub habitat present in these areas.

**Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)—an MSCP covered species.** The southern California rufous-crowned sparrow is a CDFG species of special concern. Southern California rufous-crowned sparrow was observed in subunit 2-2b. Potential breeding and nesting habitat is present throughout the coastal sage scrub habitat in PMA 2.

#### **Not Observed**

**Swainson's hawk (*Buteo swainsoni*).** The Swainson's hawk is state listed as threatened. Swainson's hawk was not observed in PMA 2. Foraging habitat is present. However, there is a low potential for this species to nest in PMA 2, as the local breeding population has been extirpated (Unitt 1984).

**Vaux's swift (*Chaetura vauxi vauxi*).** The Vaux's swift is a CDFG species of special concern. This fall migrant was not observed during the current surveys, but it is expected to occur in PMA 2 during migration.

**Western burrowing owl (*Athene cunicularia hypugaea*).** The western burrowing owl is an MSCP covered species and a CDFG species of special concern. The western burrowing owl has a low potential to occur in PMA 2 during the fall and winter in areas with existing burrows. This species is not expected to nest in the PMA.

**Southwestern willow flycatcher (*Empidonax traillii extimus*).** The southwestern willow flycatcher is an MSCP covered species and a state and federally listed endangered species. This species was not observed during the focused surveys conducted in 2003 and is not expected to breed in PMA 2 due to a lack of suitable breeding habitat. The southern willow scrub present is too small and does not provide the proper canopy configuration. However, the southwestern willow flycatcher may use the riparian habitat as a migration stop-over area for foraging during spring and fall.

**California horned lark (*Eremophila alpestris actia*).** The California horned lark is a CDFG species of special concern. There is a low potential for this species to occur in PMA 2 due to the absence of suitable grassland habitat.

**Loggerhead shrike (*Lanius ludovicianus*).** The loggerhead shrike is a CDFG species of special concern. Suitable foraging and breeding habitat is available in the coastal sage scrub in PMA 2.

**Least Bell's vireo (*Vireo bellii pusillus*).** The least Bell's vireo is an MSCP covered species and a state and federally listed endangered species. This species was not observed during the focused surveys conducted in 2003. There is a moderate potential for the least Bell's vireo to breed in the southern willow scrub habitat in PMA 2. The southern willow scrub areas are narrow, which may not be as desirable to vireos as a broader stand. If the southern willow scrub habitat improves, it would provide more suitable habitat for vireos. This PMA is not currently occupied by this species, but as the vireo population continues to recover, individuals may expand into less desirable habitat areas, such as these, for breeding.

**Bell's sage sparrow (*Amphispiza belli belli*).** The Bell's sage sparrow is a CDFG species of special concern. This species was not observed during the focused surveys conducted for coastal California gnatcatcher; however, the habitat appears suitable and there is a low potential for this species to colonize areas of dense scrub in PMA 2 in the future.

**Grasshopper sparrow (*Ammodramus savannarum*).** There is a low potential for this species to occur on PMA 2 given the absence of grassland habitat. There are historical records of this species' presence in PMA 2, prior to the development of grassland habitat areas.

**Tricolored blackbird (*Agelaius tricolor*).** The tricolored blackbird is an MSCP covered species and a CDFG species of special concern. There is a low potential for this species to forage and breed in the freshwater marsh habitat in PMA 2.

**Western bluebird (*Sialia mexicana*).** The western bluebird is an MSCP covered species. The western bluebird is a potential winter visitor to all open space areas of PMA 2.

#### 4.2.4.5 Sensitive Mammals

One sensitive mammal species, southern mule deer, was observed in PMA 2. There is potential for several other species to occur. These species are discussed below.

#### **Observed**

**Southern mule deer (*Odocoileus hemionus fuliginata*)—an MSCP covered species.** The southern mule deer was observed in subunit 2-1c and is expected to forage throughout the open space of PMA 2.

## **Not Observed**

**Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*).** The northwestern San Diego pocket mouse is a CDFG species of special concern. There is a high potential for this species to be present throughout the coastal sage scrub habitat in PMA 2.

**Southern grasshopper mouse (*Onychomys torridus ramona*).** The grasshopper mouse is a CDFG species of special concern. There is a low potential for this species to be present in coastal sage scrub areas with cactus patches.

**San Diego desert woodrat (*Neotoma lepida intermedia*).** The San Diego desert woodrat is a CDFG species of special concern. There is a moderate potential for this species to be present in the scrub areas of PMA 2.

**San Diego black-tailed jackrabbit (*Lepus californicus bennettii*).** The San Diego black-tailed jackrabbit is a CDFG species of special concern. There is a moderate to high potential for this species to occur in the coastal sage scrub areas of PMA 2.

### **4.2.5 Invasive Exotic Plant Species**

The major invasive exotic threats to native plant species in the Center City Preserve Area are annual grasses, including bromes, wild oats, ryegrass, other non-native annual grasses, and black mustard. These species quickly establish populations in disturbed areas and the interface of disturbed areas and native habitat. Annual grasses and black mustard invade native habitats and replace the native herbaceous understory species. At the end of the growing season of these non-natives, they dry out and provide fuel for wildfires.

Pampas grass is a serious threat to native plants throughout PMA 2. Wind disperses this species' seed and it will rapidly outcompete native plants for resources. A large population of pampas grass has invaded the southern willow scrub in subunit 2-2c. All other subunits have been invaded by pampas grass to some degree.

Other invasive plant species pose a threat to native plant species, habitat structure, and wildlife species populations. These species include star-thistle, sweet fennel, crystalline ice plant, tamarisk, hollow-stem asphodel, and filaree.

Figures 7a, 7h, and 7i illustrate the locations of invasive exotic species identified in PMA 2.

## **4.2.6 Other Survey Results**

### **4.2.6.1 Roadkill**

No roadkill was observed along any of the roadways adjacent to the subunits of PMA 2 during any of the surveys conducted.

### **4.2.6.2 Drainages, Channels, Culverts, and Detention Basins**

Figures 7b-7j indicate culverts and maintenance access roads mapped during surveys. Culverts connect subunits 2-1a and 2-1b under Paseo del Rey. Two culverts are at the east end of the drainage in subunit 2-1b. Another culvert is at the western end of the drainage in subunit 2-1c. These culverts may connect under Paseo Ranchero. The distance between the two culverts is approximately 600 feet; this distance lessens the potential for wildlife movement. Two culverts are in subunit 2-2aN and likely convey runoff and storm water from the adjacent residential development. Culverts connect subunits 2-2b and 2-2c under Paseo Ladera. Several culverts are along or outside the southern edges of subunits 2-2c, 2-2dW, and 2-2dE. These culverts convey runoff from the slopes to the north and Telegraph Canyon Road.

The culverts that connect subunits are constructed to convey minor water flow. They would be large enough for small mammals, amphibians, and reptiles to pass through when dry or nearly dry. Medium-sized mammals, such as raccoon, fox, coyote, and bobcat, could potentially use some of the larger culverts. Large mammals, such as southern mule deer and mountain lion, are not expected to use these culverts as movement corridors.

### **4.2.6.3 Wildlife Movement Corridor**

In general, subunits in the PMA 2 are situated sufficiently close together to allow for unimpeded bird movement between subunits. However, in many instances, roads impede the movement of mammals and reptiles between subunits. Major roads such as Otay Lakes Road, East H Street, Corral Canyon Road, and Telegraph Canyon Road, are not expected to provide significant pedestrian wildlife movement due to traffic volume and/or physical barriers such as cement lane dividers. From the perspective of north-south wildlife movement, the subunits of PMA 2 are fairly far apart. This distance would make it difficult for land-bound animals to move north-south. Subunits 2-2aN and 2-2aS are fairly isolated from subunit 2-1b and 2-2b to the east. Figures 7b-7f and 7h-7k indicate potential wildlife movement corridors or pathways in PMA 2. As mentioned above, the culverts identified are not large enough to support large mammals, but could potentially allow movement of small and medium-sized mammals, amphibians, and reptiles.

#### 4.2.6.4 Dumping, Trespassing, and Vagrant Encampments

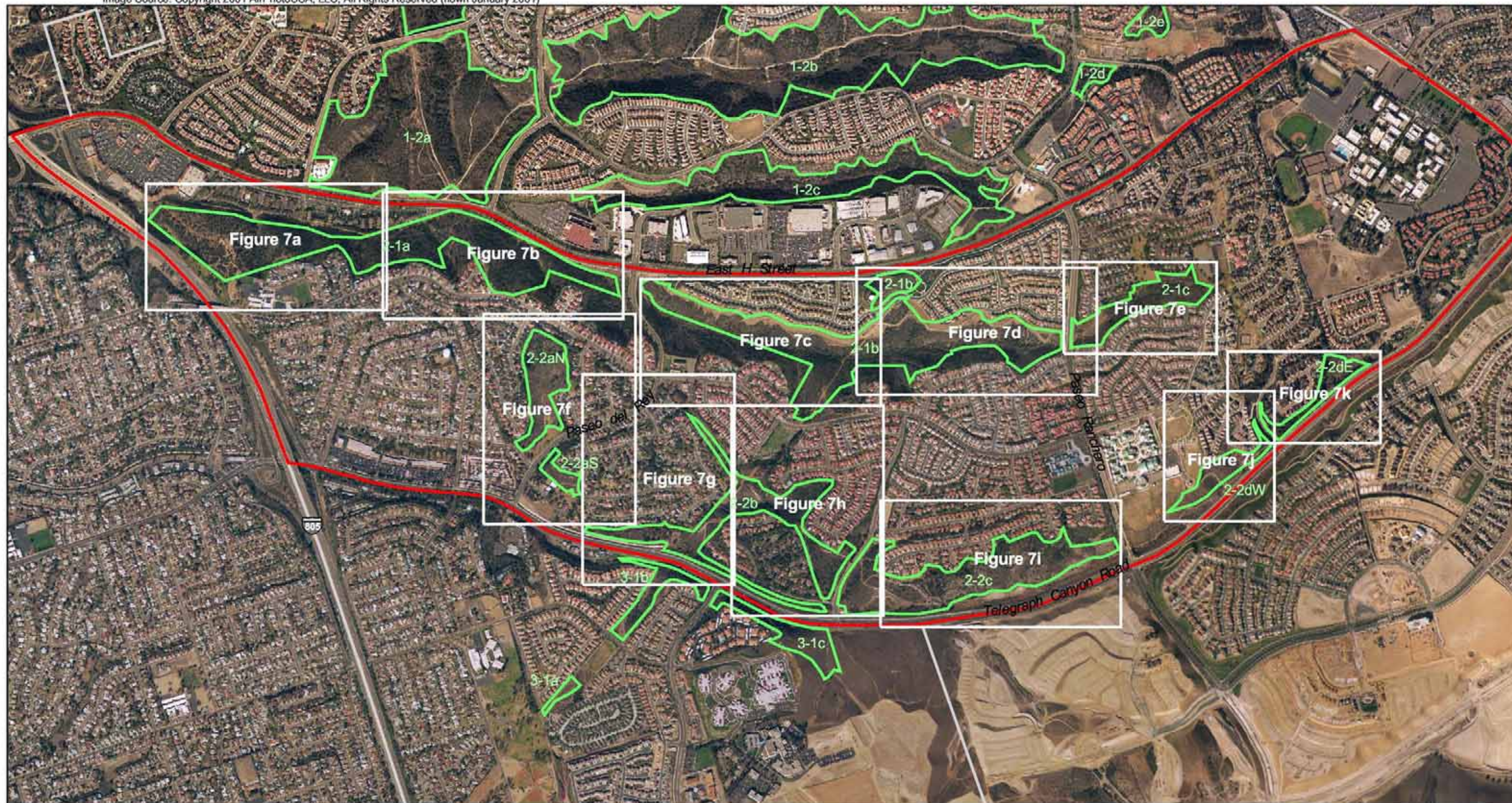
A large swath of trespassing evidence is mapped in subunit 2-1a. This area is shown on Figure 7a. The trespassing consists of well-established trails used by off-road bicycles and motorcycles.





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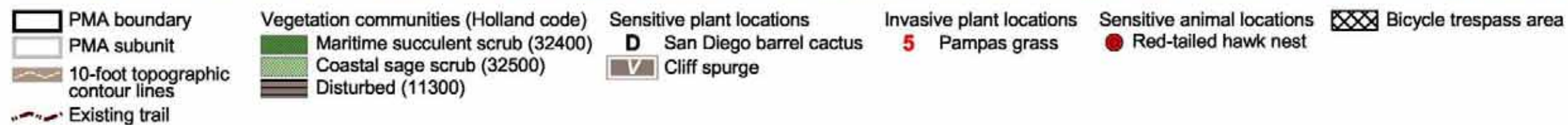
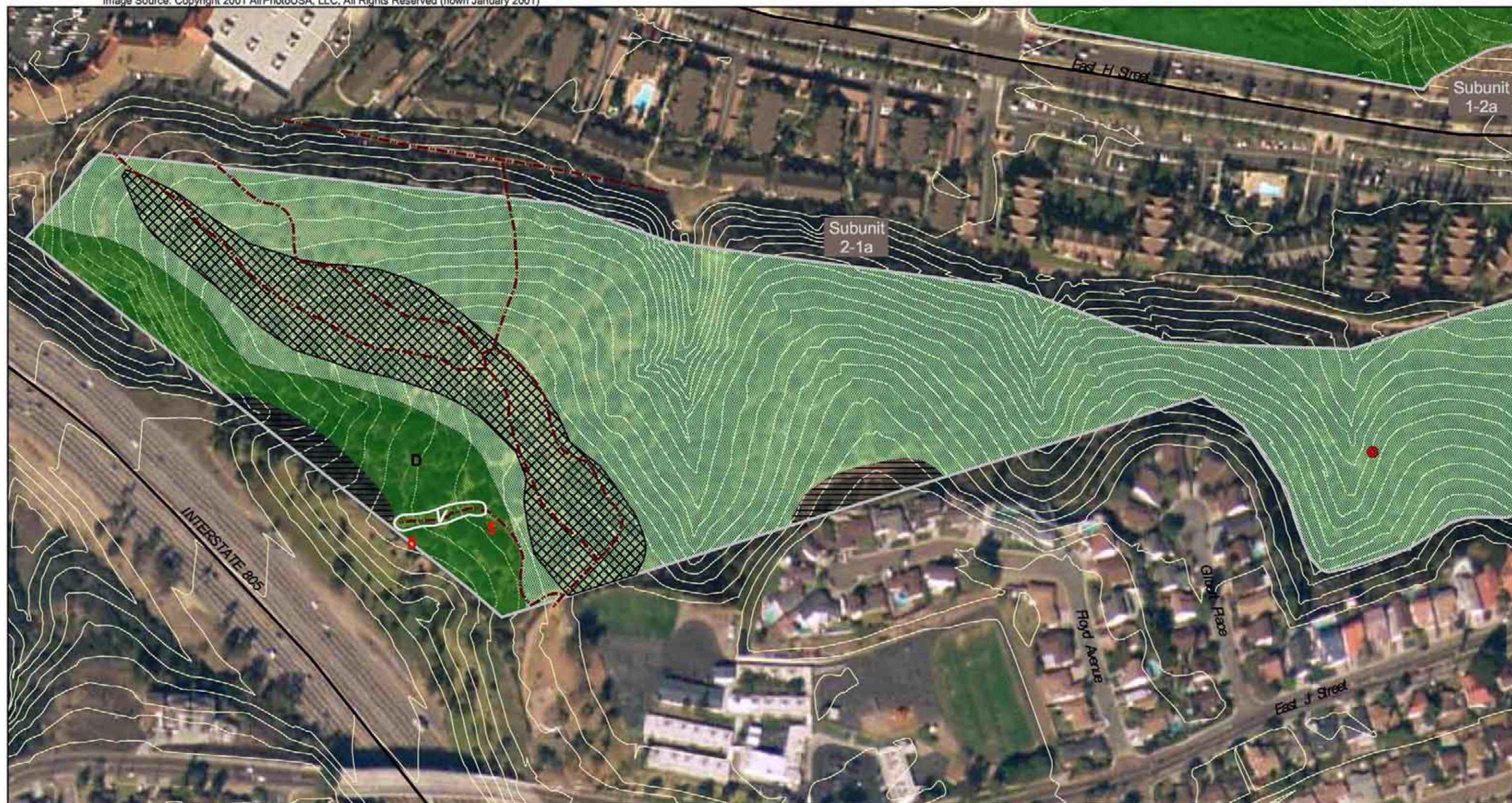




  PMA 2
   PMA subunits
   Other PMAs

0 Feet 1250 N





**FIGURE 7a**  
Existing Biological Resources  
PMA 2 Map A





PMA boundary  
 PMA subunit  
 10-foot topographic contour lines  
 Existing trail  
 Maintenance access road  
**RECON**

**Vegetation communities (Holland code)**  
 Maritime succulent scrub (32400)  
 Coastal sage scrub (32500)  
 Southern willow scrub (63320)  
 Developed (12000)

**Sensitive plant locations**  
 Q Snake cholla

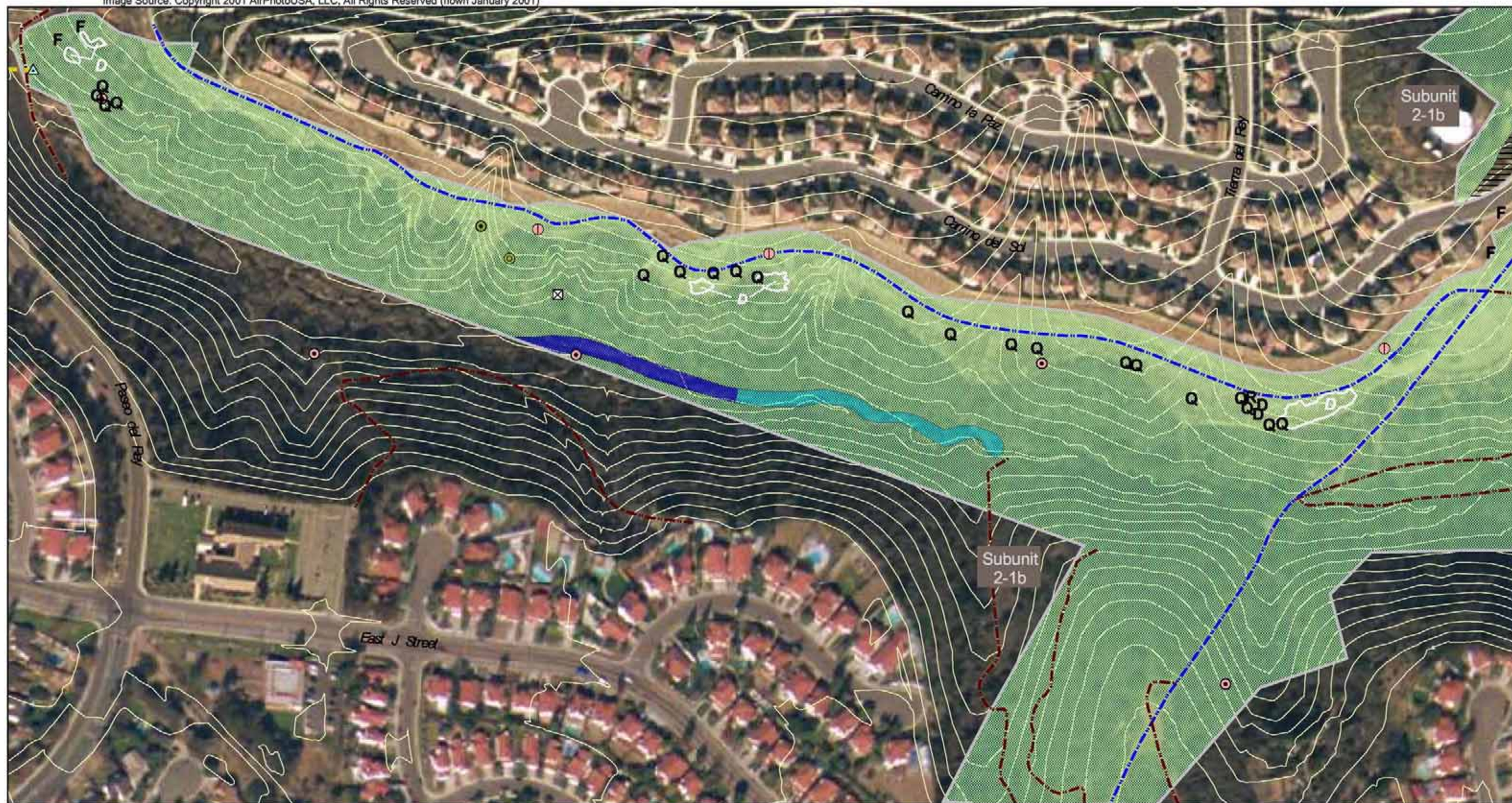
**Sensitive animal locations**  
 Coastal California gnatcatcher  
 Coastal California gnatcatcher (nesting)  
 San Diego horned lizard scat

Potential wildlife crossing  
 Culvert clear

0 Feet 200 N

**FIGURE 7b**  
 Existing Biological Resources  
 PMA 2 Map B





**PMA boundary**  
**PMA subunit**  
**10-foot topographic contour lines**  
**Existing trail**  
**Maintenance access road**

**Vegetation communities (Holland code)**  
**Coastal sage scrub (32500)**  
**Freshwater marsh (52400)**  
**Southern willow scrub (63320)**  
**Disturbed (11300)**

**Sensitive plant locations**  
**D** San Diego barrel cactus  
**D** San Diego barrel cactus  
**F** Golden spined cereus  
**Q** Snake cholla  
**R** South coast saltbush

**Sensitive animal locations**  
**Cactus wren**  
**Cactus wren nest**  
**Coastal California gnatcatcher**  
**Coastal California gnatcatcher (nesting)**

**Predator locations**  
**Large scat**

**Potential wildlife crossing**

**Culvert clear**

0 Feet 200 N

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**FIGURE 7c**  
**Existing Biological Resources**  
**PMA 2 Map C**





**PMA boundary**  
**PMA subunit**  
**10-foot topographic contour lines**  
**Existing trail**  
**Maintenance access road**

**Vegetation communities (Holland code)**  
 Coastal sage scrub (32500)  
 Southern willow scrub (63320)  
 Disturbed (11300)  
 Developed (12000)

**Sensitive plant locations**  
**F** Golden spined cereus  
**L** Palmer's sagewort

**Sensitive animal locations**  
 Coastal California gnatcatcher  
 Coastal California gnatcatcher (nesting)  
 Sharp shinned hawk

Potential wildlife crossing  
 Culvert  
 Culvert clear

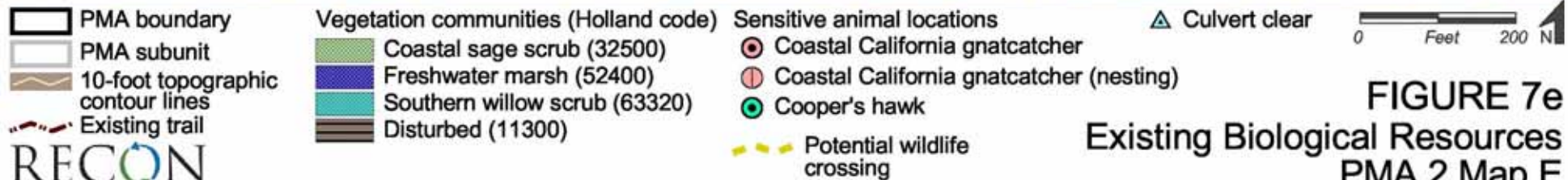
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**FIGURE 7d**  
**Existing Biological Resources**  
**PMA 2 Map D**





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**FIGURE 7e**  
**Existing Biological Resources**  
**PMA 2 Map E**





- PMA boundary
- PMA subunit
- 10-foot topographic contour lines
- Existing trail
- Maintenance access road

- Vegetation communities (Holland code)
- Coastal sage scrub (32500)
  - Southern willow scrub (63320)
  - Disturbed (11300)

- Sensitive plant locations
- Snake cholla
- Sensitive animal locations
- Coastal California gnatcatcher
  - Orange-throated whiptail
  - San Diego horned lizard scat
  - Potential wildlife crossing

- ▲ Culvert
- ▲ Culvert closed

0 Feet 200 N



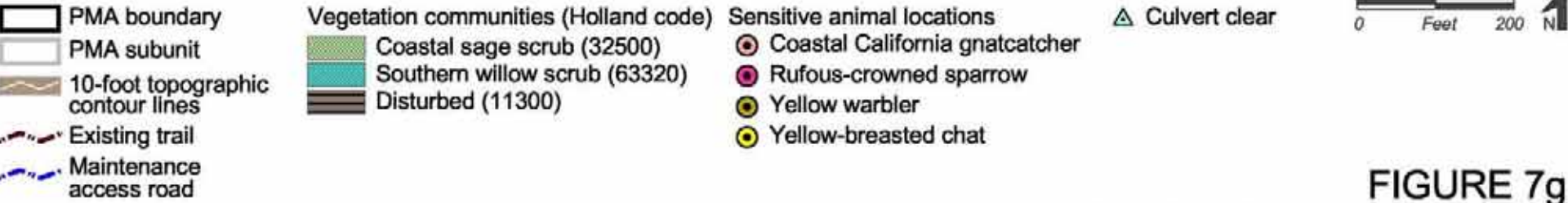
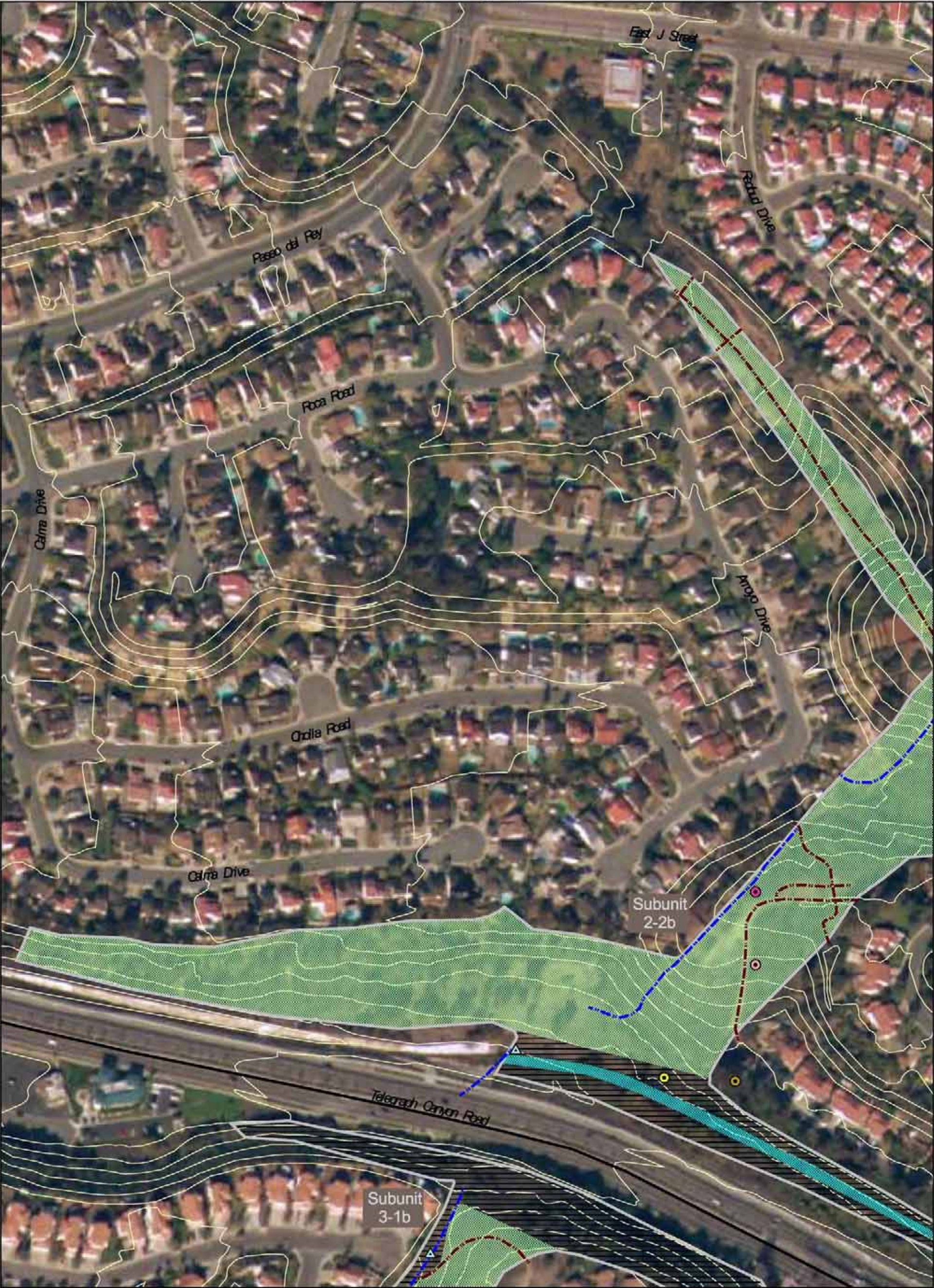
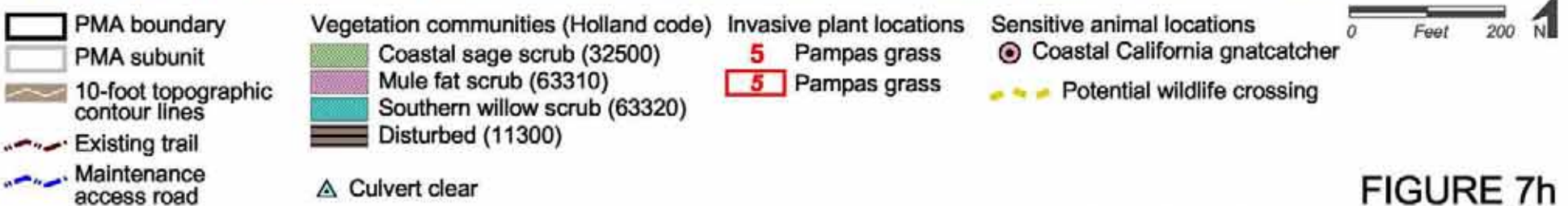
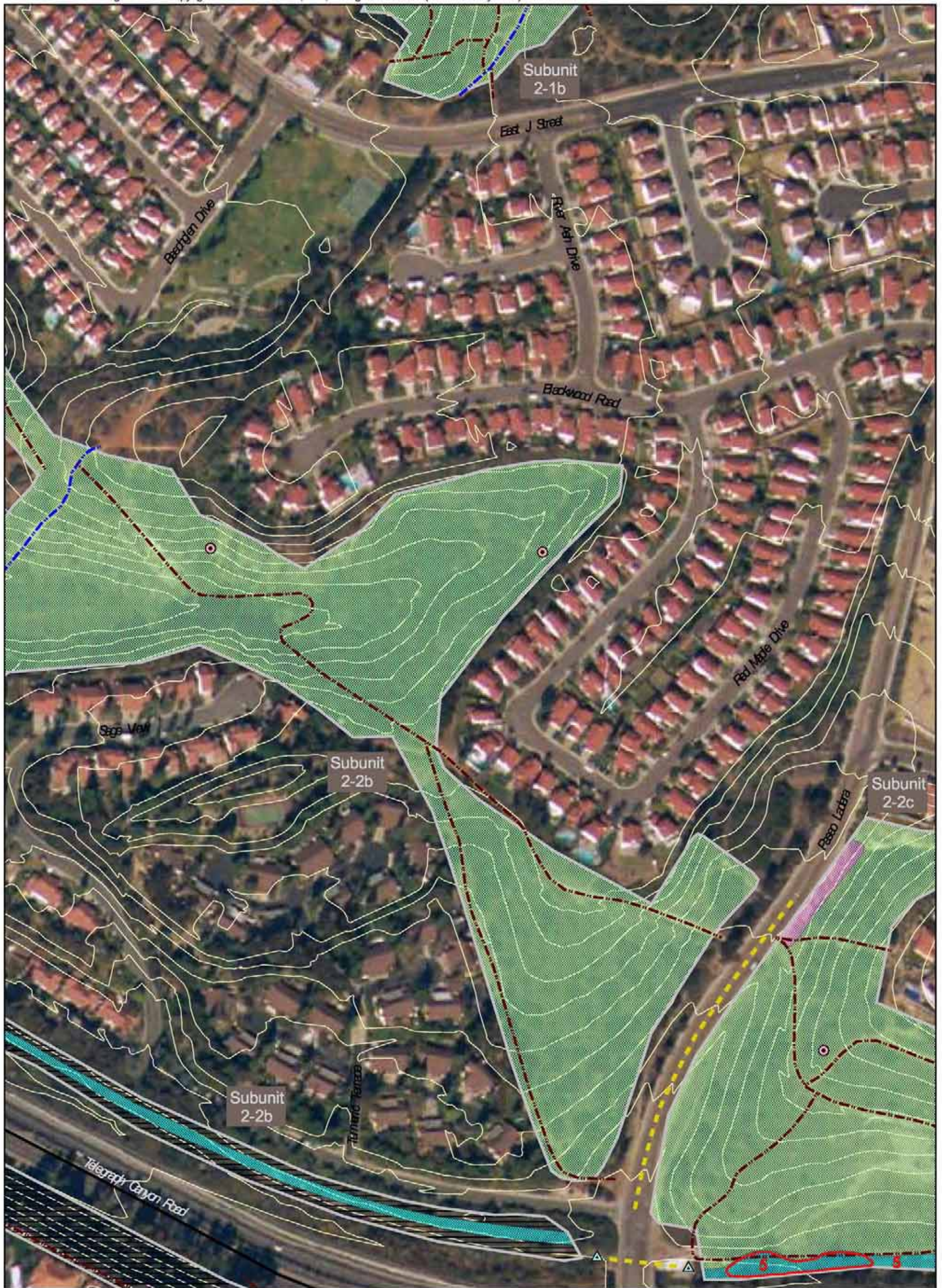


FIGURE 7g  
Existing Biological Resources  
PMA 2 Map G





**FIGURE 7h**  
Existing Biological Resources  
PMA 2 Map H





- PMA boundary
- PMA subunit
- 10-foot topographic contour lines
- Existing trail

- Vegetation communities (Holland code)**
- Coastal sage scrub (32500)
  - Southern willow scrub (63320)
  - Disturbed (11300)
  - Developed (12000)

- Sensitive plant locations**
- D San Diego barrel cactus
  - G Long-spined spineflower
  - J Otay tarplant
  - Q Snake cholla
  - R South coast saltbush

- Noteworthy plant locations**
- B California fagonia
  - B California fagonia

- Invasive plant locations**
- 5 Pampas grass
  - 5 Pampas grass

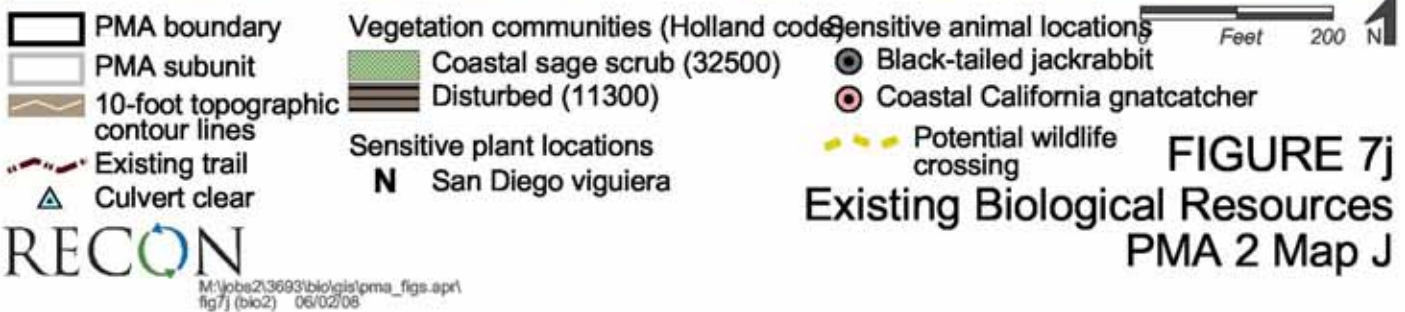
- Sensitive animal locations**
- Blue-gray gnatcatcher
  - Coastal California gnatcatcher
  - Yellow warbler

- Potential wildlife crossing
- ▲ Culvert clear

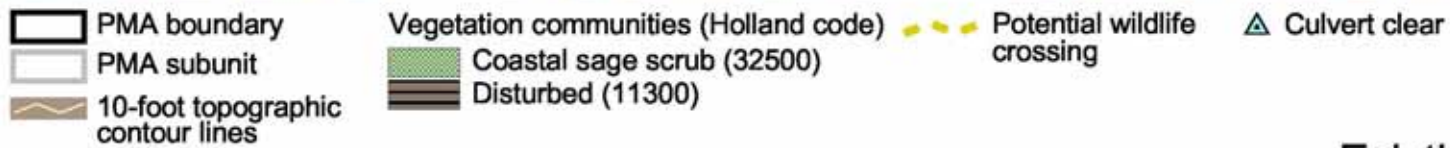
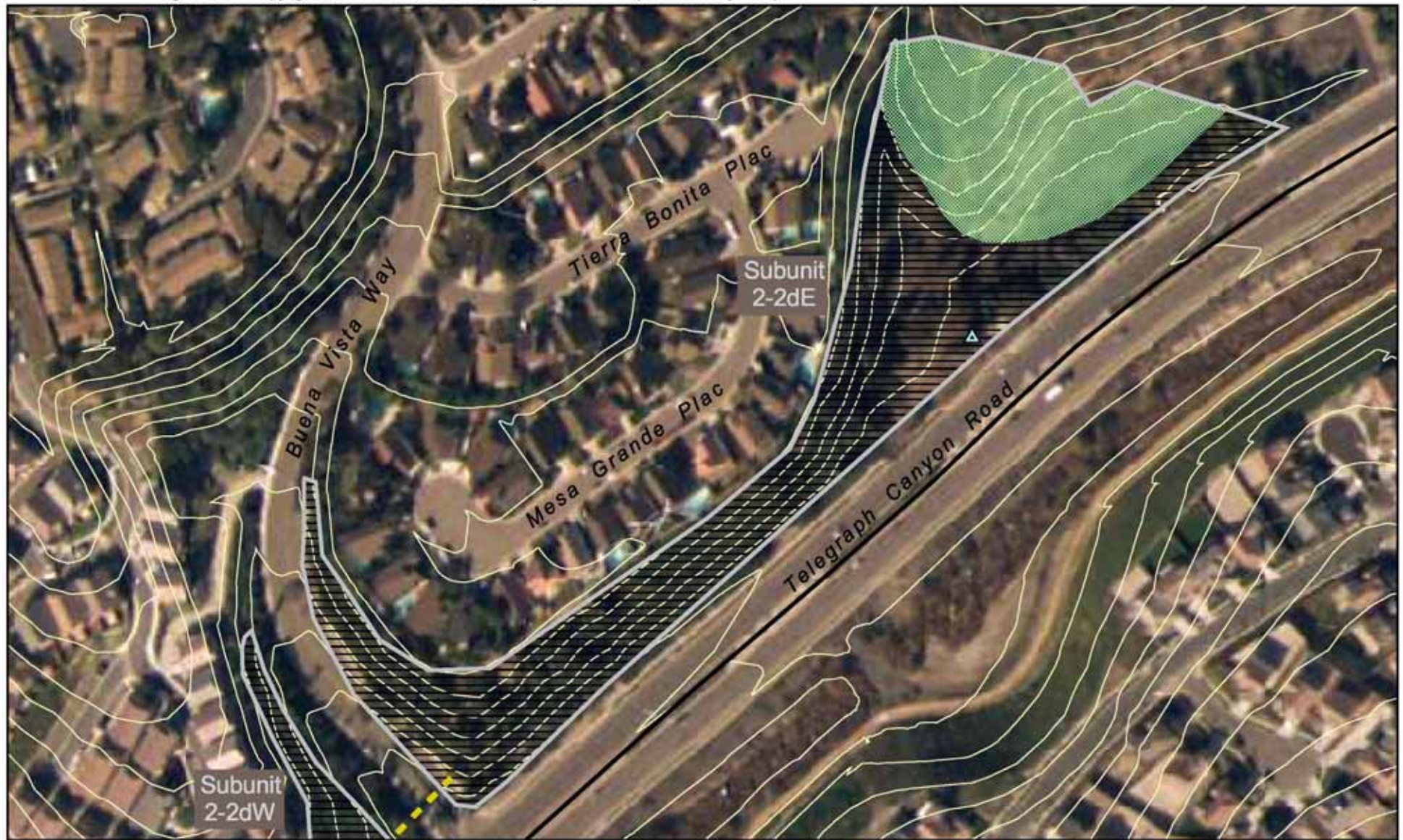
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**FIGURE 7i**  
**Existing Biological Resources**  
**PMA 2 Map I**









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**FIGURE 7k**  
**Existing Biological Resources**  
**PMA 2 Map K**

### **4.3 PMA 3**

PMA 3 contains seven subunits of preserve lands totaling 135.7 acres. All figures pertaining to PMA 3 are in numerical order at the end of this section. Figure 8 provides an overview of the subunits on PMA 3 and Figure 9 is the locator map for Figures 9a-9f.

#### **4.3.1 Site Description**

##### **4.3.1.1 Topography**

The central portion of PMA 3 contains gently sloping, west-facing hills that rise from 200 feet in the east to over 500 feet. The north and northwest part of PMA 3 contains slopes dropping into Telegraph Canyon to the north. The southern third of the PMA is bisected by Poggi Canyon with steep, incised canyons to the north and south. The southwestern part of the area contains more gradual slopes around an arroyo that feeds into Poggi Canyon to the southeast of the area. All streams in the area are intermittent or ephemeral (USGS 1967a, 1967b).

##### **4.3.1.2 Soils**

PMA 3 contains the following soil types: Olivenhain cobbly loam, Linne clay loam, Diablo clay, Salinas clay loam, Gaviota sandy loam, Huerheuro-Urban land complex, and marine terrace soil. Olivenhain cobbly loam soils occupy the upper slopes in the central part of the site. Linne clay loams predominate on the south-facing slopes above Poggi Canyon, with Diablo clays on the north-facing slopes. Salinas clay loam soils form the base of Poggi Canyon. Gaviota sandy loams dominate on the slopes south of Telegraph Canyon and around the canyon draining to Poggi Canyon. Gaviota sandy loams are well-drained, shallow, brown to yellowish brown soils formed from weathered sandstone. Huerhuero-Urban land complex soils occur in the low areas in the northeastern and southeastern corners of the site. These marine terrace soils had already been altered by cut and fill for building sites when the soils were surveyed (USGS 1967b).

#### **4.3.2 Botanical Resources**

There are eight vegetation communities present on PMA 3: Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, maritime succulent scrub, southern willow scrub, native grassland, non-native grassland, eucalyptus, and disturbed. The acreages of these vegetation communities in PMA 3 are shown in Table 4. Vegetation communities mapped on-site are shown on Figures 9a-9f. The following text provides detailed descriptions of the vegetation communities specific to PMA 3. General vegetation community descriptions are provided in Attachment 3.

Plants historically observed within PMA 3 are listed in Attachment 4. Attachment 15 provides a list of plants identified during the current surveys in each subunit of PMA 3.



**TABLE 4**  
**VEGETATION COMMUNITIES AND**  
**LAND COVER TYPES ON PMA 3**

Vegetation Type	Acres
Maritime succulent scrub	44.0
Diegan coastal sage scrub	35.7
Disturbed Diegan coastal sage scrub	3.0
Native grassland	10.9
Non-native grassland	19.5
Southern willow scrub	5.1
Eucalyptus woodland	1.7
Disturbed	15.8
Total for PMA 3	135.7

**4.3.2.1 Maritime Succulent Scrub (44.0 acres) (Holland Code 32400)**

The maritime succulent scrub in PMA 3 is dominated by San Diego barrel cactus, Mohave yucca, snake cholla, and jojoba. This vegetation community occurs mainly on south-facing slopes. Maritime succulent scrub average shrub height ranges from three feet in open or sage scrub dominated areas to eight feet in woody species or coast cholla dominated areas.

**4.3.2.2 Diegan Coastal Sage Scrub (35.7 acres) and Disturbed Diegan Coastal Sage Scrub (3.0 acres) (Holland Code 32500)**

Diegan coastal sage scrub present in PMA 3 and is dominated by species such as California sagebrush, California buckwheat, broom baccharis, common encelia, coast goldenbush, lemonadeberry, and San Diego County viguiera. Areas dominated by California sagebrush and California buckwheat range in average shrub height from three to six feet. These areas tend to occur on south-facing slopes. Lemonadeberry-dominated areas average shrub height ranges from eight to 15 feet. These areas are generally on the north-facing slopes.

Disturbed Diegan coastal sage scrub is present in areas that include a greater percentage of weedy, non-native species. These include star-thistle, Russian thistle (*Salsola tragus*), tree tobacco (*Nicotiana glauca*), horehound (*Marrubium vulgare*), black mustard, wild oats, and bromes.

**4.3.2.3 Native Grassland (10.9 acres) (Holland Code 42100)**

Two areas of native grassland are present in subunit 3-3a (see Figure 9e). These areas are dominated by species including needlegrass, common goldenstar, and blue-eyed grass. Both areas support large populations of Otay tarplant, a sensitive plant species. The southern native grassland area also supports a substantial population of small-flowered morning glory, another sensitive plant species. Non-native grass species such

as wild oats and bromes have invaded the native grassland areas to some extent. Native grasslands range in average vegetation height from one to three feet.

#### 4.3.2.4 Non-native Grassland (19.5 acres) (Holland Code 42200)

This vegetation community is present in PMA 3, and generally contains species such as bromes, wild oat, and ryegrass. The average height of this vegetation averages two to four feet for the annual grass dominated areas to eight feet and higher in black mustard dominated areas.

#### 4.3.2.5 Southern Willow Scrub (5.1 acres) (Holland Code 63320)

In PMA 3, southern willow scrub is primarily dominated by western sycamore, western cottonwood, Gooding's black willow, arroyo willow, and red willow. Southern willow scrub average vegetation height varies depending on the age and type of tree species present. In general, vegetation height averages 30 feet, and can be higher for more mature stands and/or those dominated by western sycamores and western cottonwoods.

#### 4.3.2.6 Eucalyptus Woodland (1.7 acres)

Eucalyptus woodland occurs in subunits 3-2aW and 3-2aE. Eucalyptus trees provide raptors with good perching sites and potential nesting habitat. Some species of eucalyptus excrete toxic substances from the roots in order to create conditions that are unfavorable for most other plant species to grow, which results in a very sparse understory, if any at all.

#### 4.3.2.7 Disturbed (15.8 acres) (Holland Code 12000)

Disturbed habitat found in PMA 3 includes trails and open areas that have been cleared of vegetation. These disturbed areas have a mixture of bare ground, native, and non-native vegetation including California buckwheat, broom baccharis, wild oat, ripgut grass, star-thistle, and filaree.

The City of Chula Vista and SDG&E maintain access roads in the Preserve. The access roads are generally wider than pedestrian trails to allow for vehicular access. Specifically, an SDG&E transmission line traverses the western portion of PMA 3 in a southwest to northeast direction. Associated access roads for the transmission line are in subunits 3-1a and 3-1b.

### **4.3.3 Zoological Resources**

Attachment 8 provides a complete list of all wildlife species historically known to occur in PMAs 1-4. Attachment 16 provides a list of species present within each subunit of



PMA 3. Wildlife species observed to date include two reptile species, forty species of birds, and four species of mammals.

#### 4.3.3.1 Amphibians

No amphibians have been observed in PMA 3. Pacific treefrog is expected to occur in the drainages and garden slender salamander has the potential to occur in partially open-canopy areas with leaf litter ground cover.

#### 4.3.3.2 Reptiles

Two reptile species were observed in PMA 3: granite spiny lizard (*Sceloporus orcutti*) and Belding's orange-throated lizard—a sensitive species that is discussed in the Sensitive Species section below. Other common species expected to occur include side-blotched lizard, western fence lizard, and San Diego gophersnake.

#### 4.3.3.3 Birds

Bird species commonly observed in the Diegan coastal sage scrub and maritime succulent scrub include Anna's hummingbird, bushtit (*Psaltriparus minimus minimus*), western scrub-jay, California towhee, and house finch.

Riparian vegetation communities provide habitat for many resident and migratory bird species. Species observed in the southern willow scrub include common yellowthroat, lesser goldfinch, and song sparrow.

Birds and raptors observed in non-native grassland and disturbed habitats include mourning dove, northern mockingbird, house finch, western meadowlark (*Sturnella neglecta*), and red-tailed hawk (*Buteo jamaicensis*).

#### 4.3.3.4 Mammals

Mammal species detected in PMA 3 include desert cottontail, California ground squirrel, coyote, and bobcat. These species are likely to occur in any of the vegetation communities and habitats found within PMA 3.

### **4.3.4 Sensitive Species**

For purposes of this report, a species will be considered sensitive if it is: (1) listed by state or federal agencies as threatened or endangered or are candidates or proposed for such listing; (2) considered rare, endangered, or threatened by the state of California and listed in the NDDB (2003a, 2003b, 2003c, 2003d, 2003e); (3) a narrow endemic or covered species in the City of Chula Vista MSCP Subarea Plan (City of Chula Vista 2003); (4) on Lists 1B or 2 of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (2001); or (5) considered sensitive by local conservation



organizations or specialists. Noteworthy plant species are those on Lists 3 or 4 of the CNPS *Inventory*. Sensitive habitat types are those identified by the NDDB (State of California 2003e) and Holland (1986). Assessments for the potential occurrence of sensitive or noteworthy species are based upon known ranges and habitat preferences for the species and species occurrence records from the NDDB.

Attachment 5 lists the sensitive plant species known to occur or with potential to occur in the PMAs. Attachment 6 lists sensitivity status codes. Attachment 7 provides complete general descriptions of all sensitive plant species discussed in this document. Attachment 9 lists the sensitive animal species known to occur or with potential to occur in the PMAs. Attachment 10 provides complete general descriptions of all sensitive wildlife species discussed in this document. Descriptions include sensitivity status, life history, and range. Figures 9a-9f map the locations of sensitive plants and wildlife detected during the current surveys.

#### 4.3.4.1 Sensitive Plant Species

Ten sensitive and noteworthy plant species are present within PMA 3. Several sensitive plant species are historically known from the PMA or are known to occur in the vicinity of the site, but were not observed during surveys. Many of these species, such as shrubs, would have been easily observed on the site during plant surveys. Because they were not observed, they are considered to have a low potential for occurrence or are not expected to occur. In other cases, species that are perennial or annual herbs may not have been detected due to timing constraints. Every PMA subunit was surveyed at least once; PMA subunits with an expectation of supporting rare plants were resurveyed for a minimum of two times to account for seasonal differences. Because some PMA subunits were only surveyed once during the year this could have led to the smaller herbaceous species not being detected on these subunits even though they may be present in small numbers. These species are discussed below.

Plant counts are provided for most of the sensitive species and the highest priority for conducting plant counts was for state and federally listed and MSCP covered species, including narrow endemics. In some cases, counts were not made for species that are regionally considered sensitive by CNPS, such as San Diego County viguiera or small-flowered morning glory because the level of effort required to do so would have diminished our ability to accomplish higher priority counts for listed and covered species.

#### **Observed**

**Golden-spined cereus (*Bergerocactus emoryi*).** A few individuals are present in the maritime succulent scrub near Olympic Parkway in subunit 3-2b.

**Small-flowered morning glory (*Convolvulus similans*).** Populations exceeding a thousand individuals are present in the grassland habitat in subunits 3-3a and 3-3c.



**Orcutt's bird's-beak (*Cordylanthus orcuttianus*)—an MSCP covered species.** Four populations of Orcutt's bird's-beak, totaling approximately 275 individuals, are present in subunit 3-3b.

**Snake cholla (*Cylindropuntia californica* var. *californica* [= *Opuntia californica* var. *californica*])—a narrow endemic covered under the MSCP.** A few individuals are scattered throughout Diegan coastal sage scrub in PMA subunit 3-2c.

**Otay tarplant (*Deinandra conjugens* [= *Hemizonia conjugens*])—a narrow endemic covered under the MSCP.** Populations totaling approximately 40,000 individuals are present in subunit 3-3a; approximately 10,000 individuals are present in subunit 3-3b and three individuals are present in subunit 3-3c.

**San Diego barrel cactus (*Ferocactus viridescens*)—an MSCP covered species.** Small populations of San Diego barrel cactus are scattered throughout the Diegan coastal sage scrub in subunits 3-2b, 3-2c, and 3-3c.

**San Diego marsh elder (*Iva hayesiana*).** A few individuals are present in subunits 3-3b and 3-3c within the southern willow scrub vegetation of the major drainage.

**Spiny rush (*Juncus acutus* ssp. *leopoldii*).** A few individuals are present in subunits 3-3a, 3-3b, and 3-3c, within southern willow scrub vegetation that is present in the major drainage that runs through these subunits.

**San Diego sand aster (*Lessingia filaginifolia* var. *filaginifolia* [= *Corethrogyne filaginifolia* var. *incana*]).** Small, scattered populations are present in subunits 3-3a and 3-3c, mostly in the Diegan coastal sage scrub.

**San Diego County viguiera (*Viguiera laciniata*).** A few San Diego County viguiera shrubs are widely scattered in the coastal sage scrub vegetation of subunits 3-2b, 3-3a, 3-3b, and 3-3c.

#### **Not Observed**

**San Diego thornmint (*Acanthomintha ilicifolia*).** This plant species has been historically reported in PMA 3, according to the NDDB (State of California 2003e). Though not observed during focused surveys for sensitive plants, there is a moderate potential for this species to be present in areas that continue to support suitable clay soils.

**California adolphia (*Adolphia californica*).** There is potential for this species to occur in the Diegan coastal sage scrub on clay slopes in PMA 3.



**San Diego bur-sage (*Ambrosia chenopodifolia*).** This species has a low potential to occur within the Diegan coastal sage scrub in PMA 3. One individual San Diego bur-sage occurs in PMA 1, which is the northern extent of its range.

**San Diego ambrosia (*Ambrosia pumila*).** San Diego ambrosia has a low potential to occur in the drainages of PMA 3. This species prefers sandy alluvium in creek beds, seasonally dry drainages, and floodplains. Salinas clay loam soils are present in these areas in PMA 3.

**South coast saltbush (*Atriplex pacifica*).** There is a high potential for this species to occur in PMA 3. Suitable habitat present includes the open coastal sage scrub on Linne clay loam substrate.

**Orcutt's brodiaea (*Brodiaea orcuttii*).** There is a low potential for this species to occur. Suitable habitat, which consists of scrub or grassland communities with vernal pool areas, is not present in PMA 3.

**Variegated dudleya (*Dudleya variegata*).** There is potential for this species to occur in the native grassland areas where needlegrass and soap plant (*Chlorogalum parviflorum*) grow together.

**Palmer's ericameria (*Ericameria palmeri* var. *palmeri* [= *Haplopappus palmeri* ssp. *palmeri*]).** Palmer's ericameria has a potential to occur on the Gaviota sandy loams on the slopes south of Telegraph Canyon and around the canyon draining to Poggi Canyon.

**Cliff spurge (*Euphorbia misera*).** There is a potential for cliff spurge to occur in areas of Olivenhain cobbly loam, the preferred substrate for this species.

**Palmer's grappling hook (*Harpagonella palmeri* var. *palmeri*).** Palmer's grappling hook was historically found in PMA 3, and it is currently present in the other three PMAs. There is a high potential for it to occur.

**San Diego goldenstar (*Muilla clevelandii*).** San Diego goldenstar typically grows in gravelly clay loam soils. There is a low potential for this species to occur, as the required substrate is not present. Nearby populations occur on Otay Mesa, Proctor Valley Road, and San Miguel Mountain.

**Spreading navarretia (*Navarretia fossalis*).** Suitable vernal pool habitat is not present in PMA 3 and this species is not expected to occur.

**Otay mesa mint (*Pogogyne nudiuscula*).** Suitable vernal pool habitat is not present in PMA 2 and this species is not expected to occur.



**Nuttall's scrub oak (*Quercus dumosa*).** Nuttall's scrub oak was historically detected in PMA 3 and there is a low potential for this species to occur on densely vegetated north-facing slopes.

**Munz's sage (*Salvia munzii*).** This species has a low to moderate potential to occur in the coastal sage scrub habitat with cobbly soil in PMA 3.

#### 4.3.4.2 Sensitive Amphibians

No sensitive amphibians have been detected in PMA 3. One sensitive species with the potential to occur is the western spadefoot. This species is discussed below.

*Not Observed*

**Western spadefoot (*Spea hammondi*).** The western spadefoot is a CDFG species of special concern. There is a moderate potential for this species to occur in the southern willow scrub in PMA 3.

#### 4.3.4.3 Sensitive Reptiles

Belding's orange-throated whiptail was observed in PMA 3; several other species have the potential to occur. These species are discussed below.

**Observed**

**Belding's orange-throated whiptail (*Aspidoscelis* [= *Cnemidophorus*] *hyperythrus beldingi*)—an MSCP covered species.** Belding's orange-throated whiptail is a CDFG species of special concern. This species was observed in subunit 3-3b and has the potential to occur in the southern subunits of PMA 3 where larger areas of native vegetation are present.

**Not Observed**

**San Diego horned lizard (*Phrynosoma coronatum blainvillii*).** This species is a CDFG species of special concern. There is a high potential for San Diego horned lizards to occur in the coastal sage scrub and maritime succulent scrub habitats of PMA 3.

**Coronado skink (*Eumeces skiltonianus interparietalis*).** The Coronado skink is a CDFG species of special concern. There is a moderate potential for the Coronado skink to occur in areas covered with leaf litter that receive at least partial sun, such as north-facing slopes.

**Silvery legless lizard (*Anniella pulchra pulchra*).** This species is a CDFG species of special concern. This species has a moderate potential to occur in scrub and riparian areas in PMA 3, particularly areas with loose soil or leaf litter.



**Coastal western whiptail (*Cnemidophorus tigris multiscutatus*).** This species has a moderate potential to occur in areas of sparse vegetation in PMA 3.

**Coast patch-nosed snake (*Salvadora hexalepis virgultea*).** The coast patch-nosed snake is a CDFG species of special concern. This species has a moderate potential to occur in sparsely vegetated habitats with loose or rocky soil in PMA 3.

**Two-striped garter snake (*Thamnophis hammondi*).** The two-striped garter snake is a CDFG species of special concern. This species has a moderate potential to occur in the riparian or adjacent upland areas of PMA 3.

**Red diamond rattlesnake (*Crotalus exsul*).** The red diamond rattlesnake is a CDFG species of special concern. This species has a moderate potential to occur in the scrub and grassland areas of PMA 3.

#### 4.3.4.4 Sensitive Birds

Three sensitive bird species were observed or detected in PMA 3. There is the potential for several other species to occur. These species are described below.

#### **Observed**

**Coastal California gnatcatcher (*Polioptila californica californica*)—an MSCP covered species.** The coastal California gnatcatcher is a federally listed threatened species and a CDFG species of special concern. For the purposes of this report, a 'gnatcatcher location' may represent either an individual or pair of gnatcatchers and, in general, represents a probable territory. A total of eight coastal California gnatcatchers locations are mapped in PMA 3. One location is mapped in the coastal sage scrub in subunit 3-1b. Two locations are mapped in the maritime succulent scrub in subunit 3-2b. Three locations were identified in subunit 3-2c and two locations were mapped in subunit 3-3a. Coastal California gnatcatchers have the potential to occur in subunit 3-3b in the coastal sage scrub. Subunits 3-1a, 3-2aW, 3-2aE, and 3-3c contain either insufficient quality or quantity of suitable habitat to be likely to support coastal California gnatcatchers.

**Yellow warbler (*Dendroica petechia*).** The yellow warbler is a CDFG species of special concern. The yellow warbler was detected in subunit 3-3b. This species is expected to occur in the southern willow scrub habitat in subunits 3-3a and 3-3c as well.

**Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)—an MSCP covered species.** The southern California rufous-crowned sparrow is a CDFG species of special concern. This species was observed in the maritime succulent scrub habitat in subunit 3-2c. There is a moderate potential for this species to occur in the remaining southern subunits.



## Not Observed

**White-tailed kite (*Elanus leucurus*).** The white-tailed kite is a CDFG fully protected species. This species has the potential to forage and nest in the riparian areas that border grasslands in the southern portion of the PMA.

**Northern harrier (*Circus cyaneus hudsonius*).** The northern harrier is an MSCP covered species and a CDFG species of special concern. Historically, northern harriers are known to occur in PMA 3 and have been detected recently in the vicinity. Northern harriers are expected to forage and nest in the grassland habitat present in PMA 3.

**Cooper's hawk (*Accipiter cooperii*).** The Cooper's hawk is a CDFG species of special concern. Suitable foraging and nesting habitat is present in the southern willow scrub and eucalyptus woodland in PMA 3.

**Sharp-shinned hawk (*Accipiter striatus*).** This species is a CDFG species of special concern. There is a moderate potential for this winter visitor to forage in the southern willow scrub and eucalyptus woodland in PMA 3.

**Swainson's hawk (*Buteo swainsoni*).** The Swainson's hawk is state listed as threatened. The Swainson's hawk has the potential to forage in the grassland areas; however, this species is not expected to breed as the local breeding population has been extirpated (Unitt 1984).

**Golden eagle (*Aquila chrysaetos*).** The golden eagle is an MSCP covered species and a CDFG species of special concern. There is a high potential for golden eagles to forage in PMA 3, as a golden eagle was observed foraging over many of the PMA 2 subunits. This species has a low potential to nest on-site; the closest known breeding location is to the northeast, at San Miguel Mountain.

**Western burrowing owl (*Speotyto cunicularia hypugaea*).** The western burrowing owl is an MSCP covered species and a CDFG species of special concern. This species has a low potential to occur in the open coastal sage scrub and grassland areas of PMA 3 that have existing burrows. This species is not expected to nest in the PMA.

**Vaux's swift (*Chaetura vauxi vauxi*).** The Vaux's swift is a CDFG species of special concern. This fall migrant is expected to occur in PMA 3 during migration.

**Southwestern willow flycatcher (*Empidonax traillii extimus*).** The southwestern willow flycatcher is an MSCP covered species and a state and federally listed endangered species. This species was not observed during the focused surveys conducted in 2003 and is not expected to breed in PMA 3 due to a lack of suitable breeding habitat. However, the southwestern willow flycatcher may use the riparian habitat as a migration stop-over area for foraging during spring and fall.



**California horned lark (*Eremophila alpestris actia*).** The California horned lark is a CDFG species of special concern. There is a moderate potential for this species to occur and breed in the grassland areas of PMA 3.

**Coastal cactus wren (*Campylorhynchus brunneicapillus couesi*).** The coastal cactus wren is a CDFG species of special concern. There is potential for the coastal cactus wren to forage and breed in maritime succulent scrub and coastal sage scrub habitat with large cactus patches.

**Loggerhead shrike (*Lanius ludovicianus*).** The loggerhead shrike is a CDFG species of special concern. This species has the potential to forage in the sparse coastal sage scrub and grassland areas of subunits 3-3a, 3-3b, and 3-3c.

**Least Bell's vireo (*Vireo bellii pusillus*).** The least Bell's vireo is an MSCP covered species and a state and federally listed endangered species. This species was not observed during the focused surveys conducted in 2003. There is a low potential for this species to breed in the narrow band of southern willow scrub present in PMA 3.

**Yellow-breasted chat (*Icteria virens*).** The yellow-breasted chat is a CDFG species of special concern. This species was not observed during the focused riparian bird surveys conducted in 2003. There is a low to moderate potential for this species to breed in the narrow band of southern willow scrub present in PMA 3. This is currently not occupied by this species but could become so in the future if the habitat remains suitable.

**Bell's sage sparrow (*Amphispiza belli belli*).** The Bell's sage sparrow is a CDFG species of special concern. Not observed during the focused surveys conducted for coastal California gnatcatcher; however, the habitat appears suitable and there is a low potential for this species to colonize scrub areas in PMA 3 in the future.

**Grasshopper sparrow (*Ammodramus savannarum*).** There is a moderate potential for this species to occur in the grassland habitat in the southern portion of PMA 3.

**Tricolored blackbird (*Agelaius tricolor*).** The tricolored blackbird is an MSCP covered species and a CDFG species of special concern. This species is not expected to occur in PMA 3 due to the lack of suitable marshy habitat.

**Western bluebird (*Sialia mexicana*).** The western bluebird is an MSCP covered species. The western bluebird has the potential to occur in the open space of PMA 3 during the winter.

#### 4.3.4.5 Sensitive Mammals

No sensitive mammal species were detected in PMA 3 during recent surveys, but two are historically known to occur. These and other species with the potential to occur are discussed below.



## Not Observed

**San Diego black-tailed jackrabbit (*Lepus californicus bennettii*).** The San Diego black-tailed jackrabbit is a CDFG species of special concern. This species was not observed during surveys, but is expected to occur in PMA 3 due to the presence of suitable scrub and grassland habitat.

**Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*).** The northwestern San Diego pocket mouse is a CDFG species of special concern. There is a moderate to high potential for this species to be present in open coastal sage scrub and grassland areas with loose soil.

**Southern grasshopper mouse (*Onychomys torridus ramona*).** The grasshopper mouse is a CDFG species of special concern. There is a moderate potential for this species to be present in scrub areas with clumps of cactuses.

**San Diego desert woodrat (*Neotoma lepida intermedia*).** The San Diego desert woodrat is a CDFG species of special concern. There is a moderate potential for this species to be present in the coastal sage scrub and maritime succulent scrub habitat available in PMA 3.

**Mountain lion (*Felis concolor*).** Mountain lions are not expected to occur in PMA 3 due to the lack of suitable habitat connecting PMA 3 with known locations of this species.

**Southern mule deer (*Odocoileus hemionus fuliginata*).** The southern mule deer is an MSCP covered species. The southern mule deer is expected to occur in the suitable open habitat present.

### 4.3.5 Invasive Exotic Plant Species

The major invasive exotic threats to native plant species in the Center City Preserve Area are annual grasses, including bromes, wild oats, ryegrass, other non-native annual grasses, and black mustard. These species quickly establish populations in disturbed areas and the interface of disturbed areas and native habitat. Annual grasses and black mustard invade native habitats and replace the native herbaceous understory species. At the end of the growing season of these non-natives, they dry out and provide fuel for wildfires.

Other invasive plant species pose a threat to native plant species, habitat structure, and wildlife species populations. These species include pampas grass, star-thistle, sweet fennel, crystalline ice plant, tamarisk, hollow-stem asphodel, and filaree.

Figure 9e illustrates the locations of invasive exotic species identified in PMA 3.